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THE NEW YORK CITY DEPARTMENT OF INVESTIGATION'S
OFFICE OF THE INSPECTOR GENERAL FOR THE NEW YORK CITY POLICE DEPARTMENT
RELEASES A REPORT AND ANALYSES ON THE NYPD'S QUALITY-OF-LIFE ENFORCEMENT

The Department of Investigation's ("DOI") Office of the Inspector General for the New York City Police Department ("OIG-NYPD") issued a Report today that independently examined what, if any, data-driven evidence links quality-of-life criminal summonses ("C-summonses") and misdemeanor arrests to a reduction in felony crime. The OIG-NYPD Report focused on data from the past six years and found no evidence demonstrating a clear, direct link between an increase in summons activity and a related drop in felony crime. In fact, the study showed quality-of-life summons activity between 2010 and 2015 dramatically declined with no increase in felony crime. Furthermore, with few exceptions, deeper analysis of specific summons categories and specific patrol boroughs revealed no correlation over time to any increase or decrease in felony crime.

The Report does not challenge the proper use of C-summonses and misdemeanor arrests. Rather, given the costs of summons and misdemeanor arrest activity (including an increased use of police resources, a greater number of individuals brought into the court system, and the impact on police-community relations), DOI's OIG-NYPD's investigation found that the NYPD must use this data to more carefully evaluate how quality-of-life summonses and misdemeanor arrests fit into its overall strategy for disorder reduction and crime control.

DOI Commissioner Mark G. Peters said, "This is the first ever independent, data-driven investigation into the relationship, over time, of quality-of-life enforcement and felony crime. The results of our investigation call into question some long-held assumptions about the systemic impact of certain tactics and therefore provide a starting point for the NYPD to more fully employ statistical analysis to evaluate these tactics."

Inspector General for the NYPD Philip K. Eure said, "There has been a great deal of public discussion about quality-of-life enforcement in New York City, but little statistical analysis of its temporal relationship with felony crime. Understanding these statistical relationships is integral for the NYPD to efficiently and effectively deploy its resources while continuing to be responsive to community quality-of-life concerns. It is important that the NYPD identify what has contributed to recent historically low rates of felony crime so that the Department can put police resources where they matter most."

Quality-of-life policing can take many forms and is a broader concept than quality-of-life "enforcement," as defined in the Report, which encompasses a specific and narrow range of police activity: the issuance of certain C-summonses for offenses like disorderly conduct, drinking alcohol in public (open container), and public urination,

more

among others, and certain related misdemeanor arrests. This Report did not make findings regarding quality-of-life policing or the much broader concept of the "Broken Windows" policing strategy. The NYPD's 2015 report, *Broken Windows and Quality-of-Life Policing in New York City*, claimed that quality-of-life summons and misdemeanor activity have led to less felony crime in New York City. OIG-NYPD took the analysis beyond the NYPD's raw number counts and rates, and used data-driven evidence and multiple statistical tests to examine whether shifts in quality-of-life enforcement activity actually had any measurable relationship over time with the City's felony crime rates. The Report, with limited exceptions, found no such relationship.

The Report is also a resource in light of the newly-enacted Criminal Justice Reform Act signed by the Mayor earlier this month, which reflects an effort to decriminalize certain quality-of-life offenses. The NYPD continues to possess the ability to issue C-summonses, where appropriate, and the comprehensive analysis outlined in this Report should assist in shaping the NYPD's strategy for issuing C-summonses going forward.

The Report analyzed NYPD and federal government data from 2010 through 2015, involving:

- Over 1.8 million quality-of-life summonses
- Over 650,000 quality-of-life misdemeanor arrests
- Over 600,000 felony complaints
- Over 200,000 felony arrests
- United States Census data, organized and coded to each of the NYPD's 77 precincts

To conduct its analysis, OIG-NYPD mapped out the data geographically by precinct, to see how the offenses were distributed in the City in 2015, and determined whether there were trends in summons and misdemeanor arrest activity between 2010 and 2015. OIG-NYPD also conducted additional analyses to see whether there were any statistically significant correlations, over time, between quality-of-life summonses, quality-of-life misdemeanor arrests, and the seven major felonies (Murder, Rape, Robbery, Felony Assault, Burglary, Grand Larceny, and Grand Larceny of Motor Vehicle).

OIG-NYPD's analysis resulted in key findings, including:

- Between 2010 and 2015 there was a dramatic decline in quality-of-life enforcement with no increase in felony crime. In fact, felony crime, with a few exceptions, declined along with quality-of-life enforcement, meaning OIG-NYPD found no evidence to suggest that crime control can be directly attributed to issuing quality-of-life summonses and making misdemeanor arrests.

- A deeper analysis of specific summons/misdemeanor arrest categories over time in specific geographic areas showed little-to-no correlation between C-summons activity and felony crime, meaning broad generalizations about quality-of-life summonses as a panacea are not supported by the empirical evidence in OIG-NYPD's analysis.

- Quality-of-life enforcement is not evenly distributed across the City. In 2015, the distribution of quality-of-life enforcement activity in New York City was concentrated in precincts with high proportions of black and Hispanic residents, New York City Housing Authority (NYCHA) residents, and males aged 15-20, based on data from the NYPD and the United States Census. Conversely, precincts with higher proportions of white residents had lower rates of quality-of-life enforcement. In many, but not all, instances, the rates of enforcement remained high even after adjusting for crime rates.

The Report also includes seven recommendations aimed at improving the NYPD's use of data in decision-making and encouraging the NYPD to continue to increase data transparency following the NYPD's release of CompStat 2.0, a new interactive data portal offering incident-level data on an expanding list of crimes. Major recommendations include:

- The NYPD should rely on a more data-driven approach to determine the relative impact of quality-of-life summonses and misdemeanor arrests on the reduction of felony crime, objectively comparing the statistical impact of quality-of-life enforcement on crime with other disorder reduction strategies.

- The NYPD should consider both short-term and long-term conditions when making strategic quality-of-life policing decisions. This will allow the NYPD to be less reactive and ultimately more strategic in its quality-of-life deployment.

- The NYPD has recently made incident-level felony data available to the public through CompStat 2.0. OIG-NYPD applauds the launch of CompStat 2.0 and encourages NYPD to make additional incident-level and long-term data available for public study.

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The Office of the Inspector General for the NYPD (OIG-NYPD) is an oversight office charged with investigating, reviewing, studying, auditing, and making recommendations relating to the operations, policies, programs, and practices of the New York City Police Department (NYPD). The goals of OIG-NYPD are to enhance the effectiveness of the police department, increase public safety, protect civil liberties and civil rights, and increase the public's confidence in the police force, thus building stronger police-community relations. OIG-NYPD is part of the New York City Department of Investigation and is independent of the NYPD. Inspector General Eure reports to DOI Commissioner Peters.

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An Analysis of Quality-of-Life Summonses, Quality-of-Life Misdemeanor Arrests, and Felony Crime in New York City, 2010-2015

New York City Department of Investigation
Office of the Inspector General for the NYPD (OIG-NYPD)

Mark G. Peters
Commissioner

Philip K. Eure
Inspector General for the NYPD

June 22, 2016

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* Note to the Reader: Technical Endnotes are indicated by Roman numerals throughout the Report.

I. Executive Summary

Between 2010 and 2015, the New York City Police Department (NYPD) issued 1,839,414 "quality-of-life" summonses for offenses such as public urination, disorderly conduct, drinking alcohol in public, and possession of small amounts of marijuana. There are a number of legitimate reasons to issue such summonses, most notably to address community concerns and police the offenses in question. Further, maintaining order is a goal in and of itself. Addressing disorder is a basic government function, and writing summonses may be a necessary tool toward that end.[1]

However, NYPD has claimed for two decades that quality-of-life enforcement is also a key tool in the reduction of felony crime, most recently in the 2015 report, *Broken Windows and Quality-of-Life Policing in New York City*.[2] Whether there is systemic data to support the effectiveness of quality-of-life summonses and misdemeanor arrests for this particular purpose is a question of considerable importance. New York City is a safer city today than it was in years past. In the period reviewed, 2010 through 2015, felony rates continued to decline and remain at historic lows. What factors contributed to this safer city is a worthy inquiry because identifying what works will help the Department become more strategic and more efficient. It is equally important to identify which factors are not supported by evidence. Issuing summonses and making misdemeanor arrests are not cost free. The cost is paid in police time, in an increase in the number of people brought into the criminal justice system and, at times, in a fraying of the relationship between the police and the communities they serve.

So that future discussion of this issue can take place in the clear light of objective data, the Department of Investigation's Office of the Inspector General for the NYPD (OIG-NYPD) undertook to examine what, if any, data-driven evidence links quality-of-life enforcement—*defined narrowly for purposes of this Report as quality-of-life criminal summonses and quality-of-life misdemeanor arrests*—to a reduction in felony crime.[3]

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[1] NYPD acknowledges that disorder reduction may not always require issuing summonses or making misdemeanor arrests (*See e.g.,*William J. Bratton, BROKEN WINDOWS AND QUALITY-OF-LIFE POLICING IN NEW YORK CITY 1 (2015), *available at* http://www.nyc.gov/html/nypd/downloads/pdf/analysis_and_planning/qol.pdf), and may include other police activities like educating people about quality-of-life regulations, creating partnerships with community members and organizations, conducting graffiti clean-up programs, and enhancing lighting or closing parks. These tactics, commonly characterized as *situational crime prevention* or *problem-oriented policing* strategies, may be more effective at reducing disorder than issuing summonses or making arrests (which are defined in this Report as "quality-of-life enforcement")—*See* Anthony A. Braga and Brenda J. Bond, *Policing Crime and Disorder Hot Spots: A Randomized Controlled Trial*, 46.3 CRIMINOLOGY (2008)—but this Report focuses exclusively on quality-of-life enforcement as a crime reduction tactic rather than these other forms of disorder reduction.

[2] *See* Bratton, *supra* note 1, at 3.

[3] Obviously, an increased police presence in a neighborhood has the potential to reduce crime. Moreover, there has certainly been anecdotal reporting to support the theory that aggressive use of quality-of-life summonses will reduce violent crime: stories about individual quality-of-life summonses that lead to arrests for gun possession, for instance, occur with some frequency. It is also important to recognize that a great deal of quality-of-life policing activity is

This Report looks *solely* at the question of whether quality-of-life enforcement has any measurable relationship to felony crime.[4] This Report does not speak to the use of quality-of-life enforcement to maintain order, nor does it speak to any type of quality-of-life enforcement other than quality-of-life summons and misdemeanor arrest activity.[5]

While it is not possible to know conclusively whether quality-of-life summonses and misdemeanor arrests impact violent crime, OIG-NYPD, after a months-long analysis of six years of summons, arrest, and complaint data over time, can now state: OIG-NYPD's analysis has found no empirical evidence demonstrating a clear and direct link between an increase in summons and misdemeanor arrest activity and a related drop in felony crime. Between 2010 and 2015, quality-of-life enforcement rates—and in particular, quality-of-life summons rates—have dramatically declined, but there has been *no commensurate increase in felony crime*. While the stagnant or declining felony crime rates observed in this six-year time frame may be attributable to NYPD's other disorder reduction strategies or other factors, OIG-NYPD finds no evidence to suggest that crime control can be directly attributed to quality-of-life summonses and misdemeanor arrests. This finding should not be over-generalized to preclude the use of summonses and misdemeanor arrests for the purpose of targeted crime and disorder reduction, but given the costs of summons and misdemeanor arrest activity, the lack of a demonstrable direct link suggests that NYPD needs to carefully evaluate how quality-of-life summonses and misdemeanor arrests fit into its overall strategy for disorder reduction and crime control.

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challenging for quantitative analysis. No dataset reasonably captures the number of quality-of-life police interactions that do not result in a criminal summons ("C-summons") or misdemeanor arrest. However, modern policing is not run on such an anecdotal basis, but rather on data-driven systemic evidence—a point made most forcefully by the success of CompStat, NYPD's statistical system for crime tracking, in reducing crime.

[4] As discussed in more detail in the methodology section of this Report, OIG-NYPD's analysis focused on violent felony complaints (murder, rape, robbery, and assault) and property felony complaints (burglary, larceny, and grand larceny auto).

[5] Though arguably a large portion of quality-of-life policing is in response to community concerns, 911 calls, or 311 complaints (*See* Bratton, *supra* note 1, at 4) and is focused on block-level issues like trash, noise, and disruptive crowds, this Report also does not speak to the question of *why* NYPD responds to quality-of-life conditions, but rather *how*.

OIG-NYPD's analysis demonstrates the following:

- **Between 2010 and 2015 there was a dramatic decline in quality-of-life enforcement with no increase in felony crime. In fact, felony crime, with a few exceptions, declined along with quality-of-life enforcement.** While stagnant or declining felony crime rates observed in this six-year time frame may be attributable to NYPD's other disorder reduction strategies, or other factors, OIG-NYPD finds no empirical evidence to suggest that crime control can be directly attributed to quality-of-life summonses and misdemeanor arrests. Whatever has contributed to the observed drop in felony crime remains an open question worthy of further analysis.

  OIG-NYPD's trend analysis found that the quality-of-life summons rate, the rate of summonses for bicycles on sidewalks, and the open container summons rate all declined in tandem with the violent crime rate in multiple patrol boroughs.[6] An increase in the rate of quality-of-life misdemeanor arrests accompanied a decline in the violent crime rate in Queens North and a marginally declining property crime rate in Manhattan South.

  None of the statistically significant relationships between trends suggests that quality-of-life summons and misdemeanor arrest rates had a direct influence on the reduction of felony crime over the six-year time frame that OIG-NYPD examined. Instead, OIG-NYPD found that as rates of quality-of-life summonses declined, violent crime rates declined with them for the duration of the entire six-year time period. Not only does this finding run counter to the hypothesis that a decline in quality-of-life enforcement could lead to an increase in violent crime rates, but a visual inspection of the timelines indicates that reductions in quality-of-life summonses do not appear to have directly followed major decreases in violent crime. It does not appear that NYPD's reduction of quality-of-life summonses was in direct response to its success as a mechanism of reduction of violent crime.

- **Between 2010 and 2015, quality-of-life enforcement had little-to-no temporal relationship with the decline of felony crime rates across New York City, in that there was a limited statistically demonstrable correlation.** Prior reviews of the impact of summons activity on crime have tended to view the issue entirely in geographic terms—relating summons activity in a particular patrol borough to felony crime in that area.[7] This investigation sought to review the question based on both geography and time; looking to see whether a change in quality-of-life summons or misdemeanor arrest activity correlated with felony crime over time as well as within specific patrol boroughs. That is, where quality-of-life summons or misdemeanor arrest activity increased, was there a statistically-significant corresponding reduction in felony crime (and vice versa)?

  At a macro level, quality-of-life summonses in New York City have declined precipitously over the past six years. The felony crime rate, as measured by complaints for the seven major felonies (murder, rape, robbery, felony assault, burglary, grand larceny, and grand larceny of

[6] NYPD patrol activities operate under eight umbrella commands, or "patrol boroughs": Bronx, Queens North, Queens South, Brooklyn North, Brooklyn South, Staten Island, Manhattan North, and Manhattan South.
[7] Bratton, *supra* note 1.

motor vehicle), has also declined, with few exceptions. However, when viewed more closely, a statistical review of specific summons categories analyzed over time in specific patrol boroughs showed few temporal relationships between a change in that summons activity and a change in major crime categories. A change in summons activity does not accompany any obvious inverse correlation with a change in major crime activity. This does not demonstrate that issuance of quality-of-life summonses has no impact on felony crime—that conclusion would require additional data and analysis. However, it is clear that broad generalizations about quality-of-life summonses as a panacea are not supported by empirical evidence derived from OIG-NYPD's analysis.

- **Quality-of-life enforcement is not evenly distributed in its use across the City and over time, in some cases even after adjusting for crime rates.**[8] Some precincts and patrol boroughs have far lower rates of quality-of-life summonses and misdemeanor arrests than others, and some types of summonses have more frequently been given in certain patrol boroughs and at different time frames compared with others. For example, trends involving several specific categories of quality-of-life summonses changed abruptly between December 2011 and January 2012. Some of these changes may have corresponded with then-NYPD Commissioner Raymond Kelly's order to NYPD officers to cease arrests for small amounts of marijuana[9] and the peak rates of NYPD's use of "stop, question, and frisk."

  In 2015, the rate of quality-of-life enforcement in precincts citywide was positively correlated with higher proportions of black and Hispanic residents,[10] New York City Housing Authority (NYCHA) residents, and males aged 15-20.[11] As the representation of these populations increased in a given area, the rate of quality-of-life summonses and misdemeanor arrests also increased. Conversely, precincts with higher rates of white residents had less quality-of-life enforcement.

  When holding constant—or "controlling for"—felony crime rates, however, different patterns emerge. Property crime rates do not explain these demographic disparities; that is, even taking property crime rates into account, there are more summonses issued than expected in precincts with large black and Hispanic populations. Similarly, total felony crime rates do not explain the increased summonses (with a narrow exception for the rate of misdemeanor arrests in precincts with high proportions of black residents). However, higher *violent* crime rates *do*

[8] As noted throughout this Report, these counts are not necessarily fully indicative of quality-of-life enforcement efforts citywide. In areas with higher rates of felonies, for instance, it is possible that quality-of-life stops will turn into arrests for more serious crimes at higher rates—for example, if the individual stopped has open warrants. OIG-NYPD's counts of quality-of-life summonses and misdemeanors in those areas may be masked by more serious crime, and thus potentially underestimated.

[9] Summonses for marijuana possession—a lesser penalty—increased substantially after this order.

[10] A person who identifies as Hispanic can be of any race. *See* U.S. EQUAL EMPLOYMENT OPPORTUNITY COMM'N, EEO-1 Instruction Booklet, EEOC.GOV, app. at 4 (Jan. 2006), *available at* http://www.eeoc.gov/employers/eeo1survey/2007instructions.cfm ("Hispanic or Latino - A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.").

[11] *Id*.

potentially explain higher quality-of-life enforcement rates in precincts with higher proportions of Hispanic and NYCHA residents. Precincts with higher rates of residents who are black or males aged 15-20 received *lower* rates of quality-of-life enforcement than their higher violent crime rates would predict, while precincts with more white residents received *higher* rates of quality-of-life enforcement than their lower violent crime rates would predict. *OIG-NYPD stresses that these findings, standing alone, should not be read as either proof or disproof of racial bias. Rather, this analysis suggests that there is no simple understanding of this complex issue.*

Consistent with its findings, OIG-NYPD recommends that NYPD take several important initial steps, addressing three key areas for improvement to NYPD's approach to quality-of-life enforcement in New York City:

- **NYPD should rely on a more data-driven approach to determine the relative impact of quality-of-life summonses and misdemeanor arrests on the reduction of felony crime, objectively comparing the statistical impact of quality-of-life enforcement on crime with other disorder reduction strategies.**

    1. NYPD should assess the relative effectiveness of quality-of-life summonses, quality-of-life misdemeanor arrests, and other disorder reduction strategies in reducing felony crime, demonstrating whether statistically significant relationships exists between specific disorder reduction tactics and specific felony crimes.

    2. NYPD should conduct an analysis to determine whether quality-of-life enforcement disproportionately impacts black and Hispanic residents, males aged 15-20, and NYCHA residents.

- **NYPD should expand its data reviews to longer time frames in order to separate long-term trends from short-term trends or transient impacts of quality-of-life policing efforts across New York City.**

    3. NYPD should expand consideration of quality-of-life enforcement beyond short-term real-time conditions.

- **NYPD has recently made incident-level data available to the public through CompStat 2.0. OIG-NYPD welcomes the launch of this interactive tool and recommends that NYPD additionally release more granular crime data to allow the public to better understand and analyze the relationships between quality-of-life enforcement and crime.**

    4. NYPD should release incident-level and geographically coded data on *summonses and misdemeanor arrests.*

    5. NYPD should release *historical* incident-level and geographic data.

6. NYPD should ensure that data currently released in yearly formats also include more granular temporal data, including month-to-month formats and incident-level data.

7. All incident-level crime data, from felony arrests and complaints to misdemeanor arrests and summonses, should be released in the same accessible spreadsheet formats.

Finally, OIG-NYPD notes that on May 25, 2016, the New York City Council passed the Criminal Justice Reform Act of 2016, which Mayor Bill De Blasio signed into law on June 13, 2016. The Criminal Justice Reform Act is a collection of eight bills that requires NYPD to establish written, public guidance for officers on how to enforce five different categories of quality-of-life offenses as defined by New York City municipal law (as opposed to the New York State Penal Law): 1) possession of an open container of alcohol in public; 2) the violation of parks rules and other parks offenses; 3) public urination; 4) littering; and 5) unreasonable noise.[12] Overall, the Criminal Justice Reform Act reflects an effort to decriminalize certain quality-of-life offenses and look to other, non-criminal methods of enforcement. More specifically, the Criminal Justice Reform Act recognizes the importance of officer discretion in addressing quality-of-life offenses and provides officers with a new option to issue civil summonses that would be handled by the Office of Administrative Trials and Hearings (OATH), rather than criminal summonses that place recipients into the criminal justice system. The decision on enforcement in individual instances will still ultimately rest with NYPD officers, although the "legislative findings and intent" section of this bill reflects the Council's opinion "that criminal enforcement of these offenses should be used only in limited circumstances and that, in the absence of such circumstances, civil enforcement should be utilized."[13] Obviously, NYPD continues to possess the ability to issue criminal summonses which may remain appropriate in certain circumstances. The data and analysis in this Report should assist in NYPD's thinking on when such criminal summonses are needed.

[12] *See* NYC Administrative Code §10-125(b), §16-118(1), §16-118(6), §24-218(a), §18-146; §18-146; §18-147, and New York City Charter § 533(a)(9).
[13] *See* Int. No. 1057-A, at §14-155(a) (2016).

II. Introduction

NOTE TO THE READER:

In this Report, *quality-of-life enforcement* is defined as both quality-of-life summonses and quality-of-life misdemeanor arrests. It does not include other activities that that might colloquially be called "enforcement."

In the mid-1990s, crime in New York City began to fall dramatically for the first time in decades. Between 1993 and 1997, the number of shootings throughout the City dropped from 5,269 incidents a year to 1,759. During the same time, between 1994 and 1996, robberies dropped by more than 35,000 incidents citywide.[14] Overall, index crime rates fell by almost half between 1993 and 1999,[15] and with few exceptions, they have continued to decline.[16]

What caused or contributed to the City's decline in crime has been a continuing debate. In 1994, the New York City Police Department (NYPD) began targeting what it characterized as "quality-of-life offenses" such as marijuana possession and urinating in public, to drive down felony-level crime.[17] The policy stemmed, in part, from the Broken Windows criminological theory, first coined by George Kelling and James Q.

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[14] *See* New York Police Department (NYPD), TACKLING CRIME, DISORDER, AND FEAR: A NEW POLICING MODEL 2 (2015), *available at* http://www.nyc.gov/html/nypd/html/home/POA/pdf/Tackling_Crime.pdf.

[15] Index crimes are the crimes the Federal Bureau of Investigation (FBI) tracks to produce its Uniform Crime Reporting (UCR) program. These offenses are: murder and non-negligent manslaughter, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson. *See* FBI, UCR Frequently Asked Questions, https://www2.fbi.gov/ucr/ucr_general.html (last accessed June 16, 2015).

[16] *See* TACKLING CRIME, *supra* note 14, at 3.

[17] In 1994, in "Police Strategy No. 5: Reclaiming the Public Spaces of New York," NYPD described how quality-of-life policing was needed in New York City. "Aggressive panhandling, squeegee cleaners, street prostitution, 'boombox cars,' public drunkenness, reckless bicyclists, and graffiti have added to the sense that the entire public environment is a threatening place." NYPD, POLICE STRATEGY NO. 5: RECLAIMING THE PUBLIC SPACES OF NEW YORK 3 (1994), *available at* https://www.ncjrs.gov/pdffiles1/Photocopy/167807NCJRS.pdf. More recently, NYPD has described quality-of-life policing as "enforcing a variety of laws against street drug dealing, public drinking, public marijuana smoking, open-air prostitution, and other minor offenses . . . " TACKLING CRIME, *supra* note 14, at 2.

Wilson in a 1982 article in *The Atlantic*,[18] which holds that the preservation of general order in an environment reduces more serious crime in that environment.[19]

While NYPD employs multiple techniques intended to reduce disorder, one of the more publicly discussed is quality-of-life policing, or the concentration of police resources on minor crimes and violations, including the issuance of quality-of-life summonses and misdemeanor arrests (what this Report collectively terms *quality-of-life enforcement*). But there is a cost to this practice. In addition to using police resources and bringing more people into the criminal justice system, some have argued that quality-of-life enforcement hurts police-community relations,[20] causes distrust in the police department's motives, and makes even law-abiding community members feel unsafe.[21]

For this Report, the Office of the Inspector General for the NYPD (OIG-NYPD) examined whether there is a statistically

[18] *See* George L. Kelling and James Q. Wilson, *Broken Windows: The Police and Neighborhood Safety,* THE ATLANTIC (Mar. 1982), *available at* http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/. *See* Bratton, *supra* note 1, at 1. ("In brief, Kelling and Wilson asserted that unaddressed disorder encourages more disorder. From that follows crime, then increasingly serious crime, and finally violence.").

[19] Based on interviews with NYPD officials, NYPD does not have a single official definition for what it considers a "quality of life offense."

[20] In its *BROKEN WINDOWS AND QUALITY-OF-LIFE POLICING IN NEW YORK CITY* report (*supra* note 1, at 7), NYPD cites a Quinnipiac University poll as confirmation that "the public wants and requests quality-of-life policing." However, this poll only surveyed self-identified registered voters. For the purpose of understanding how individuals living in areas most impacted by crime and quality-of-life policing view the practice, this may represent a skewed sample.

[21] As an initial step in its investigation, OIG-NYPD conducted individual and group interviews with 140 participants working or residing in communities that are likely to be highly impacted by quality-of-life policing. These communities included the 25th Precinct (Manhattan), 103rd Precinct (Queens), 120th Precinct (Staten Island), 40th and 46th Precincts (Bronx), and 73rd and 75th Precincts (Brooklyn). These precincts were selected by ranking both the raw number and rate of total misdemeanor arrests. All precincts in the top 30 of both lists were selected, and their felony crime rates were then examined to identify precincts with high rates of *both* lower-level and felony crime. Three precincts—the 13th, 14th, and 18th—were eliminated because their rates of only one serious felony—grand larceny—were higher than average, while other felony crime rates were markedly lower. Notably, these are precincts in midtown Manhattan with high transient, commuter, and tourist traffic. Interviews were conducted with court-involved youth, LGBTQ communities, and homeless individuals. Youth, LGBTQ, and homeless participants were recruited via assistance from BOOM! Health, Streetwise and Safe, Picture the Homeless, and the Justice Scholars Program, the Sylvia Rivera Law Project, the Audre Lorde Project, and other organizations, while precinct-based participants were recruited via cooperation with Precinct Community Councils. All interviews were analyzed using textual analysis software HyperRESEARCH and qualitative coding principles (*See* Johnny Saldana, THE CODING MANUAL FOR QUALITATIVE RESEARCHERS (2nd ed. 2013)). The average age of survey participants who answered a post-focus group survey was 49.6 years old (N = 95). Of these 140 participants, only five indicated having a history of arrest. Participants of multiple races and ethnicities were represented in the focus groups. Participants in OIG-NYPD's interviews expressed skepticism that quality-of-life summonses were affecting serious crime in their communities and believed that quality-of-life enforcement is potentially harmful in their communities in that it interferes with more positive police-community relations. While participants' opinions cannot be used to draw overarching conclusions about citywide impressions of quality-of-life enforcement, their responses comprise a targeted review of the thoughts, feelings, and reported experiences of a focused range of New Yorkers from heavily impacted precincts regarding quality-of-life policing.

significant relationship between summonses issued for quality-of-life offenses, quality-of-life misdemeanor arrests, and felony crime. OIG-NYPD utilized data from every precinct in New York City from 2010-2015. This Report focuses solely on the use of quality-of-life enforcement as a mechanism to reduce felony crime rates. It does *not* discuss the policy implications of issuances of summonses or arrests for misdemeanor crimes with respect to order maintenance, nor does it speak to the various methods NYPD may use to address disorder. In this Report, OIG-NYPD describes in detail both the nature of data collection and analysis, the results revealed by the analysis, and proposed improvements to how NYPD measures the effectiveness of quality-of-life enforcement.

Quality-of-Life Policing versus "Broken Windows" [22]

While some use the terms "quality-of-life policing" and "Broken Windows Theory" interchangeably, these concepts are not synonymous, and they are *not* used synonymously in this Report.

Kelling and Wilson's Broken Windows Theory states that disregarding small offenses will lead to more felony crimes because criminals assume that felony crimes will be similarly disregarded. Broken Windows policing is about focusing police attention on signs of neighborhood disorder before they evolve into felony crime.

Quality-of-life enforcement, including the targeting of low-level "quality-of-life" offenses for increased summons activity, is merely one aspect of disorder reduction under the Broken Windows Theory.

Importantly, neither Broken Windows nor quality-of-life policing should be conflated with stop, question, and-frisk,[23] or *Terry* stops.[24] A stop (a brief detention) requires reasonable suspicion of involvement in a crime, while a frisk requires reasonable suspicion of weapon possession. Quality-of-life summonses or arrests target low-level offenses and require the higher standard of probable cause.

[22] This Report does not challenge the validity of Broken Windows Theory or question whether disorder reduction leads to crime reduction. Similarly, it does not examine long-term historical trends in quality-of-life policing or consider whether such tactics were responsible for the decline in crime observed in New York City following peak rates in the mid-1990s. Rather, it has a narrow focus of examining explicitly whether quality-of-life summonses and misdemeanor arrests have a statistical relationship with felony crime over the past six years, 2010 through 2015.
[23] *See Floyd v. City of New York*, 959 F.Supp.2d 540 (S.D.N.Y. 2013).
[24] *Terry v. Ohio*, 392 U.S. 1 (1968).

III. Analysis

OIG-NYPD's examination of quality-of-life enforcement patterns investigates the statistical relationship between quality-of-life enforcement and felony crime.

Any discussion regarding the efficacy and impact of quality-of-life enforcement should begin with an understanding of how the policy has been employed across the various precincts, patrol boroughs, and demographically-diverse areas of New York City. Rather than merely focusing on how quality-of-life enforcement and crime rates relate to each other in the present, examination of these relationships should include a perspective that reflects changes over time. Looking at trends in both quality-of-life criminal violations and felony crimes over several years allows for chronological comparisons and more context than prior analyses which: 1) examined annualized totals, 2) overlaid current rates of felony arrests and complaints, misdemeanor arrests, and summonses, or 3) examined cumulative summonses and misdemeanors arrests rather than specific quality-of-life categories.

This Report begins with a descriptive analysis of the current distribution of quality-of-life enforcement in New York City. For the purposes of this Report, quality-of-life enforcement is narrowly defined as *only summonses and misdemeanor arrests with strong intended impact on broader public disorder*.[25] This Report then analyzes the connection between quality-of-life enforcement and felony crime complaints[26] over the past six calendar years, with trends spanning from 2010 through 2015.

A. Methodology: Data Collection, Sources, and Preliminary Analysis

OIG-NYPD began its analysis by requesting and receiving numerous data sets from NYPD. First, for the study period of January 1, 2010 through December 31, 2015, OIG-NYPD obtained precinct-level[i] monthly raw numbers of felony complaints for the "seven major" felonies:[27]

- Murder
- Rape
- Assault
- Robbery
- Grand Larceny
- Burglary
- Grand Larceny Auto

In addition, OIG-NYPD obtained precinct-level monthly raw numbers of all misdemeanor arrests and C-class (criminal) summonses, separated by the type of

[25] As stated repeatedly above, there are other aspects of and bases for quality-of-life policing not considered here.
[26] Felony crime complaints are generated when a crime incident is observed by or reported to NYPD, and recorded in NYPD's crime databases. The number of felony complaints reflects reported felony crime.
[27] OIG-NYPD also obtained precinct-level monthly raw numbers of felony arrests for murder, rape, assault, and robbery ("violent" felony arrests) from NYPD. These data were not used in the correlational analyses, and were exclusively obtained to provide context for the descriptive comparison between violent felony crime and quality-of-life enforcement rates analyzed in OIG-NYPD's bubble charts beginning on page 29.

criminal violation, for the same time period.[28]

To calculate precinct-level demographic-specific crime rates, OIG-NYPD also collected data from two publicly-available sources: the United States Census[29] (U.S. Census) and the New York City Housing Authority (NYCHA). From the U.S. Census, OIG-NYPD obtained block-level data on resident sex, age, race, ethnicity, and total population. From NYCHA's 2015 Data Development Book, OIG-NYPD obtained the resident population of each NYCHA development in New York City.[30] NYCHA populations were obtained for analysis because violent crime rates within the purview of NYPD's Housing Bureau, which serves residents of public housing, are higher than those in the rest of New York City.[31] For instance, rates of shooting incidents reported by NYPD's Housing Bureau are approximately four times higher than citywide shooting incidents.[32] This factor led OIG-NYPD to examine precinct-level populations of NYCHA residents as part of the analysis.

To account for differences in population across precincts and patrol boroughs, [33] raw number crime counts were translated into rates per 10,000 residents.[34] Given prior research on gender and the age-crime curve

[28] OIG-NYPD conducted analyses at precinct and patrol borough levels to speak to citywide trends. More granular incident-level or block-level data could reveal within-precinct patterns that are different than the patterns found with aggregated data. Using a smaller unit of analysis, however, would require additional resources to evaluate the vastly larger number of data points, result in rates with very small values, and create difficulties in analyzing correlation results. Correlations at the precinct level offer a more easily interpretable picture of variable relationships.

[29] Census rates are an imperfect approximation of precinct populations. Criminal offenses do not always occur in the precinct in which either the offender or the victim resides, and Census rates do not take into account homeless populations, commuters, or tourists—population fluctuations that may have a substantial effect on crime rates in particular precincts.

[30] Official NYCHA residential estimates are an approximate measure of NYCHA populations, and do not take into account individuals living in NYCHA housing who may not be on official residency rosters.

[31] The NYCHA populations per precinct were determined by drawing precinct boundaries into a program called NYCityMap, mapping the address of each NYCHA development and then summing the number of NYCHA residents per precinct. This allowed OIG-NYPD to calculate the proportion of each precinct's population residing in NYCHA housing. *See* New York City, NYCityMap, http://maps.nyc.gov/doitt/nycitymap/.

[32] This analysis came from an OIG-NYPD calculation, based on CompStat data publicly available on NYPD's website. *See* NYPD, Crime Prevention: Crime Statistics, available at http://www.nyc.gov/html/nypd/html/crime_prevention/crime_statistics.shtml.

[33] Precinct populations and demographic data used in analyses were calculated from the 2010 U.S. Census by obtaining total populations by Census block. *See* 2010 Census Summary File, Table: Sex by Age, All Counties in New York City, prepared by the U.S. Census Bureau, 2011, http://factfinder.census.gov. OIG-NYPD then mapped Census blocks to precincts with Arc-GIS, a commonly-used mapping software. Annual estimates were derived for patrol boroughs by aggregating 2010 precinct populations into patrol boroughs and then determining the proportion of the population that each patrol borough contributed to the total borough population. OIG-NYPD then used that ratio to convert annual Census estimates for each borough of New York City into annual NYPD patrol borough populations.

[34] These rates were calculated by determining the number of arrests per the total population and multiplying that number by 10,000. These rates are a best estimate aimed at allowing comparisons across differently-populated precincts, patrol boroughs, and City boroughs. As OIG-NYPD did not collect incident-level data, however, it is unknown whether individuals who were arrested or given summonses reside in the precinct in which they were arrested or issued a summons. *See* Todd C. Warner, Olive Lu, Adam G. Fera, Ervin M. Balazon, and Preeti Chauhan,

establishing that young men in their mid-to-late teens are most at risk of criminality,[35] U.S. Census data on sex and age were condensed into one age-gender variable that had the highest potential to predict crime rates: the proportion of the population of each precinct and patrol borough that was male and 15-20 years old.[36] Race and ethnicity data were calculated for the proportion of the population of each precinct and patrol borough that self-reported in the U.S. Census as being solely black, solely white, or Hispanic.[37][ii]

After receiving and organizing data from their various sources, OIG-NYPD then organized NYPD crime data into the following categories for analysis:[38]

Felony Crime[iii]	An aggregation of complaints for felony murder, rape, robbery, assault, burglary, grand larceny, and grand larceny auto.
Violent Crime	An aggregation of complaints for felony murder, rape, robbery, and assault.
Property Crime	An aggregation of complaints for felony burglary,[iv] grand larceny, and grand larceny auto.
Violent Felony Arrests	An aggregation of arrests for felony murder, rape, robbery, and assault.
Total Quality of Life Misdemeanors	An aggregation of misdemeanor arrests related to controlled substances, marijuana, alcohol, tobacco, and gambling; property damage; trespassing; lewdness; promoting/patronizing prostitution; petit larceny; and resisting arrest.[39]

Mapping Mobility of Individuals Arrested for Misdemeanors, 2006-2014, REPORT PRESENTED TO THE CITIZENS CRIME COMMISSION (June 2016), for more information on this issue.

[35] The age-crime curve refers to the relationship between criminal activity and a person's stage in life . Crime is most likely to occur during the teen years. *See e.g.,* Terrie E. Moffitt*, Adolescence-Limited and Life-Course Persistent Antisocial Behavior: A Developmental Taxonomy*, 100 PSYCHOLOGICAL REVIEW 674 (1993); T.E. Moffitt and A. Caspi, *Childhood predictors differentiate life-course-persistent and adolescence-limited antisocial pathways among males and females*, 13 DEVELOPMENT AND PSYCHOPATHOLOGY 355 (2001).

[36] The NYCHA populations per precinct were determined by drawing precinct boundaries into a program called NYCityMap, mapping the address of each NYCHA development, and then summing the number of NYCHA residents per precinct. This allowed OIG-NYPD to calculate the proportion of each precinct's population residing in NYCHA housing. *See* NYCityMap, *supra* note 31.

[37] It is important to note that there are limitations to this approach. The U.S. Census gives respondents the ability to select up to six races in varying combinations of mixed-race identification, and separately records Hispanic status apart from other race data. This means that OIG-NYPD was unable to separate residents who identify as Hispanic white from those who identify as Hispanic black. In addition, OIG-NYPD did not count any individuals who are some combination of black and other races, or those who are white and other races. The issue of U.S. Census racial identification is a common one in related research and is not easily resolved.

[38] These crime categories have numerous sources, such as the New York Penal Law, the New York City Administrative Code, and Parks Department violations.

[39] For a complete list of misdemeanor arrests included in this count, *see* Appendix 4 at the end of this Report.

Total Quality of Life Criminal ("C") Summonses	An aggregation of C-summonses for disorderly conduct, disorderly person in park, disorderly premise licensed to sell alcohol, urinating in public, urinating/defecating in public, consumption of alcohol, consumption of alcohol in park, consumption of alcohol in vehicle, possession of marijuana, trespass, bicycle (other), bicycle infraction (commercial), bicycle no safety helmet, bicycle on sidewalk, bike in park, other administrative code violation, noise (animal), noise (device), noise (engine exhaust), noise (horn/alarm), noise (unreasonable), littering all, loitering, panhandling, windshield washers, spitting in public, exposure of person, sex in park, jaywalking, graffiti, no tax stamp, and vending: no tax stamp.
Specific Quality of Life Summons Categories[40]	C-summonses for the categories of open container,[41] disorderly conduct,[42] possession of marijuana, urinating/defecating in public,[43] and riding a bicycle on a sidewalk.

[40] These five categories were selected due to their more frequent occurrence and frequent reference in the literature on quality-of-life policing. *See*, Bratton, *supra* note 1, at 27.

[41] This includes summonses for consumption of alcohol, consumption of alcohol in a public park, and consumption of alcohol in a vehicle.

[42] This includes summonses for disorderly conduct, disorderly person in a public park, and maintaining a disorderly premise licensed to sell alcohol.

[43] This includes summonses for urinating in public and urinating/defecating in a public park.

OIG-NYPD selected the "quality-of-life" categories based on:

- NYPD "Quality of Life" memo book inserts;[44]
- NYPD descriptions of quality-of-life offenses in its 2015 report, *Broken Windows and Quality-of-Life Policing in New York City*;[45]
- examination of the existing literature on quality-of-life policing;[46] and
- consultation with former members of service of NYPD.

While quality-of-life summonses and misdemeanor arrests do not represent the full range of NYPD activities aimed at reducing disorder, these variables were chosen specifically to investigate the relationship between NYPD's use of criminal summonses and misdemeanor arrest strategies for controlling disorder and the felony crimes they are said to prevent.[47]

Next, OIG-NYPD used the statistical software program SPSS to carry out preliminary statistical analyses. For each precinct, OIG-NYPD computed the proportion of the precinct's population that was black, white, or Hispanic; the proportion that was male aged 15-20; and the proportion that resided in NYCHA developments.[v] Rates per 10,000 residents were calculated for all crime measures. Use of proportions and rates allowed for the comparison across precincts and patrol boroughs with different populations, and comparisons between smaller geographic areas (like precincts) and larger areas (like the entire City of New York).

The 22nd Precinct (otherwise known as Central Park Precinct or "CPP") and the 41st Precinct (in the South Bronx) were eliminated from some aspects of the descriptive and correlation analyses due to their status as outliers, or data points with such extreme values on particular variables that they tend to skew the depiction of true data patterns.[vi] The 22nd Precinct, mainly encompassing Central Park in Manhattan, has 25 residents, according to 2010 U.S. Census counts.[48] This low population makes it appear that CPP has the highest crime rate in New York City because every crime in Central Park is weighed against the 25 residents of this precinct. The 41st Precinct had extreme raw numbers of violent crimes compared with its low population, likely due to the fact that the Riker's Island correctional facility was counted within the territorial confines for the 41st Precinct until 2014.

After carrying out these initial statistical analyses, OIG-NYPD then performed two more complex analyses that formed the foundation of its quantitative study: a correlational analysis and a trend analysis.

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[44] Inserts are topical reference pages added to NYPD memo books. *See* NYPD, COMMON SUMMONS VIOLATIONS QUICK REFERENCE GUIDE, PD 160-103 (Feb. 1997), the most up-to-date version.

[45] *See* Bratton, *supra* note 1, at 1-2.

[46] *See e.g.,* Kelling and Wilson, *supra* note 18, at 29-30; 29-38; William Bratton and George L. Kelling, *The Assault on 'Broken Windows' Policing,* THE WALL STREET JOURNAL, Dec. 18 2014, *available at* http://www.wsj.com/articles/william-bratton-and-george-kelling-the-assault-on-broken-windows-policing-1418946183; Wesley G. Skogan, *Broken Windows: Why – and How – We Should Take Them Seriously,* 7.2 CRIME AND PUBLIC POLICY 195 (2008).

[47] *See* Bratton, *supra* note 1, at 3.

[48] *See* Census Tract 143, New York County, New York, http://www.usboundary.com/Areas/475618.

Quantitative findings are separated into two general categories of inquiry: the demographic and geographic distribution of quality-of-life enforcement in New York City at present, and a six-year retrospective analysis examining relationships between felony crime and summonses and misdemeanor arrests for quality-of-life offenses.

B. Quality-of-Life Enforcement and Crime in New York City Today

In this analysis, OIG-NYPD sought to answer the following questions:

1) How are quality-of-life summonses and quality-of-life misdemeanor arrests distributed geographically across New York City?

2) What are the most frequently issued quality-of-life summonses?

As an initial step in the analysis, OIG-NYPD examined the distribution of quality-of-life summonses and quality-of-life misdemeanor arrests in New York City in 2015. NYPD organizes precincts into eight patrol boroughs—high-level units of command operating in each of New York's five boroughs. Staten Island and the Bronx each comprise their own patrol boroughs, whereas Queens, Manhattan, and Brooklyn are each divided into two patrol boroughs. A map of the precincts assigned to each patrol borough is seen in Figure 1, *NYPD Precincts by Patrol Borough*.

All data in OIG-NYPD's quantitative analysis were collected and examined at both the precinct level and by NYPD patrol borough.

As depicted in Figures 2 and 3, quality-of-life enforcement is unevenly distributed citywide, with different precincts exhibiting highly varied rates of quality-of-life summonses and misdemeanor arrests.

In 2015, quality-of-life summons rates ranged from 33 per 10,000 residents to 1,106 per 10,000 residents.[49] The 14th Precinct had the highest rate of quality-of-life summonses (approximately 1,106 per 10,000), followed by the 25th Precinct (approximately 914 per 10,000), and the 40th Precinct (approximately 683 per 10,000).

Quality-of-life misdemeanor arrests ranged from 25 per 10,000 residents to 762 per 10,000 residents. The 14th Precinct had the highest rate of quality-of-life misdemeanor arrests (approximately 762 per 10,000), followed by the 25th Precinct (approximately 466 per 10,000), and the 40th Precinct (approximately 422 per 10,000).

[49] When precinct-level data is discussed, rates were calculated using the population of the precinct. When patrol borough rates are discussed, rates were calculated using the population of the patrol borough.

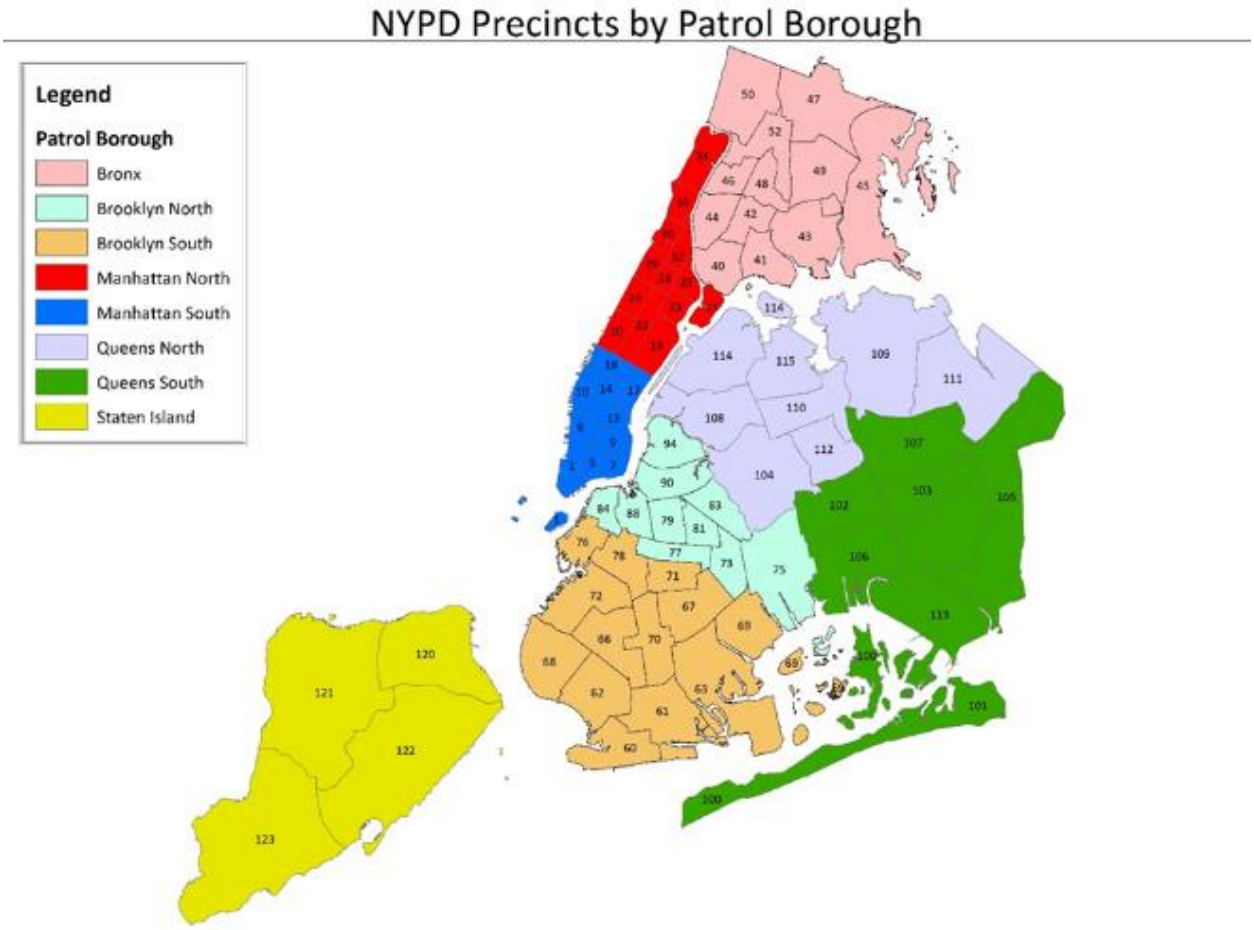

NYPD Precincts by Patrol Borough
Legend
Patrol Borough
Bronx
Brooklyn North
Brooklyn South
Manhattan North
Manhattan South
Queens North
Queens South
Staten Island

FIGURE 1

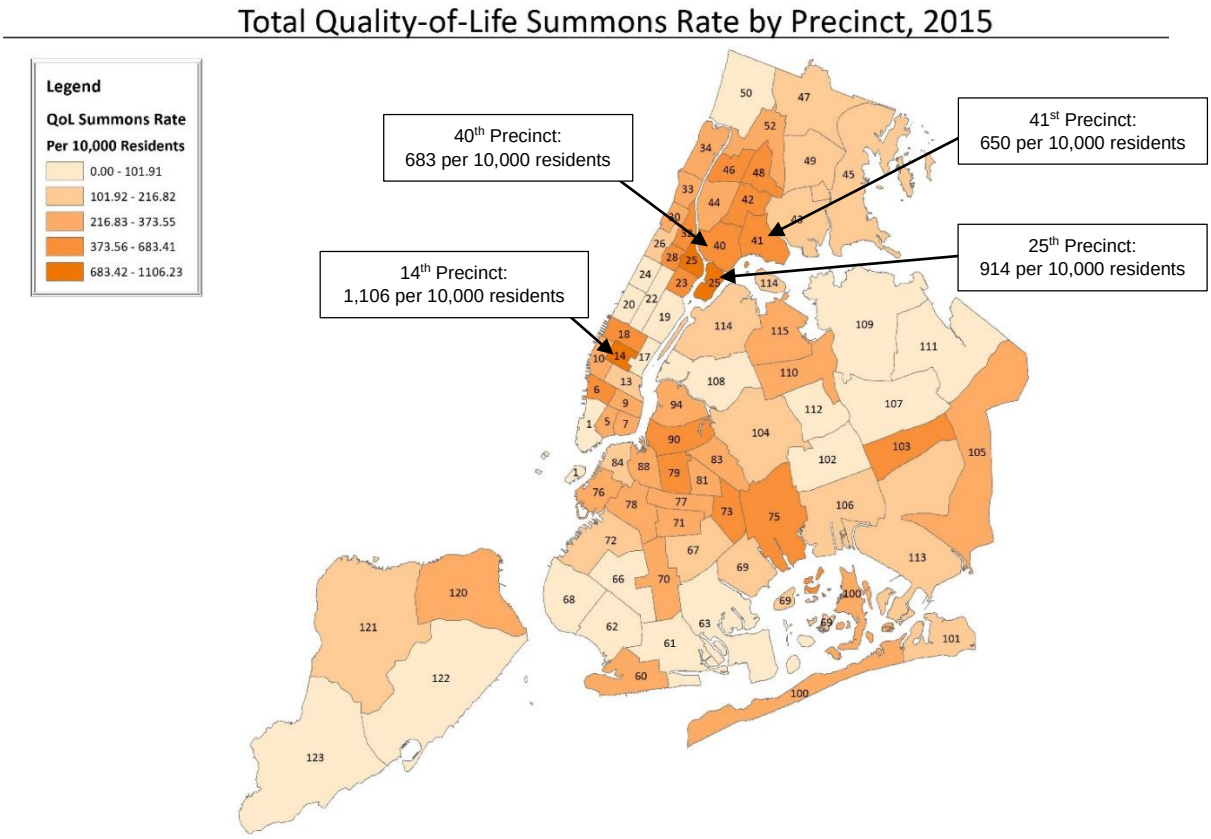

Total Quality-of-Life Summons Rate by Precinct, 2015
Legend
QoL Summons Rate
Per 10,000 Residents
0.00 - 101.91
101.92 - 216.82
216.83 - 373.55
373.56 - 683.41
683.42 - 1106.23
40th Precinct:
683 per 10,000 residents
41st Precinct:
650 per 10,000 residents
25th Precinct:
914 per 10,000 residents
14th Precinct:
1,106 per 10,000 residents

FIGURE 2

Total Quality-of-Life Misdemeanor Arrest Rate by Precinct, 2015

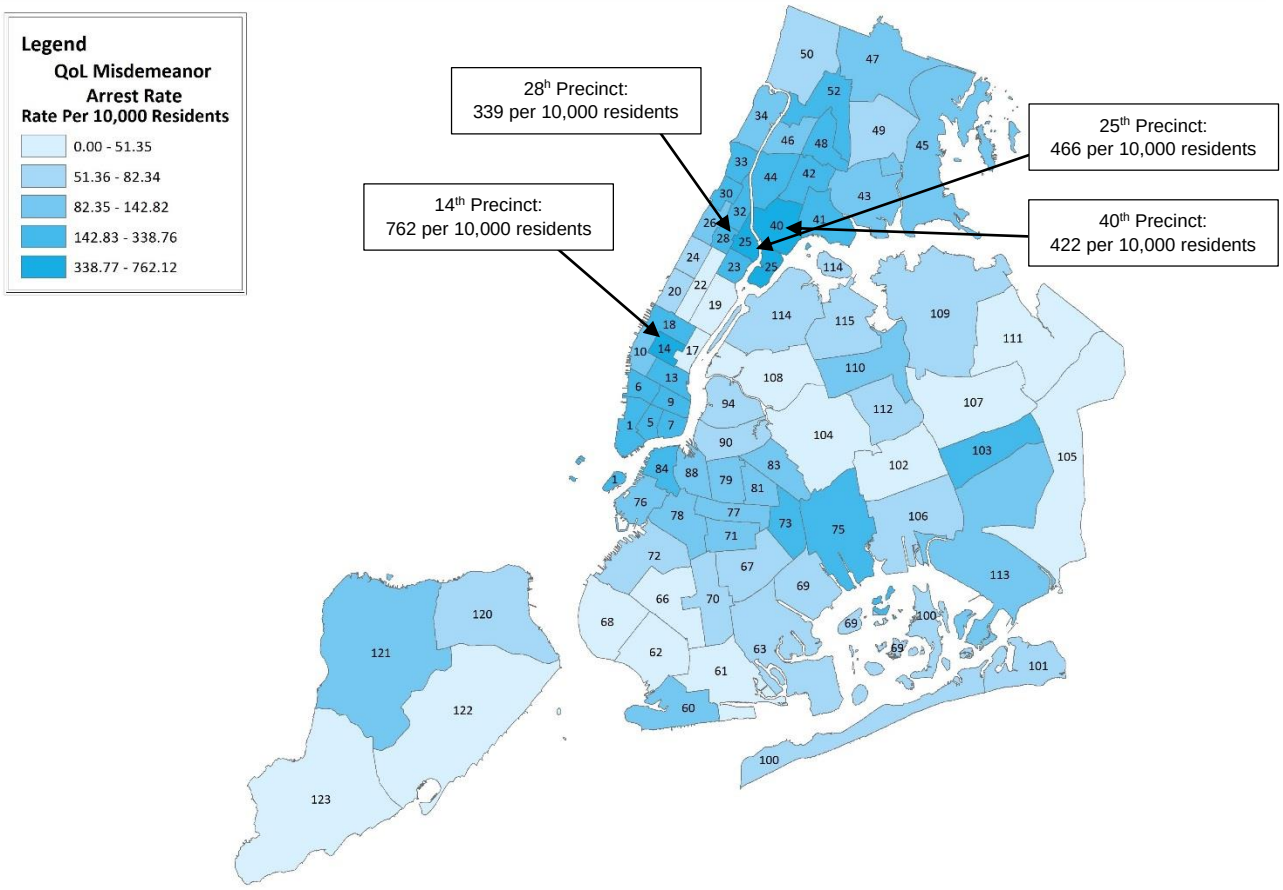
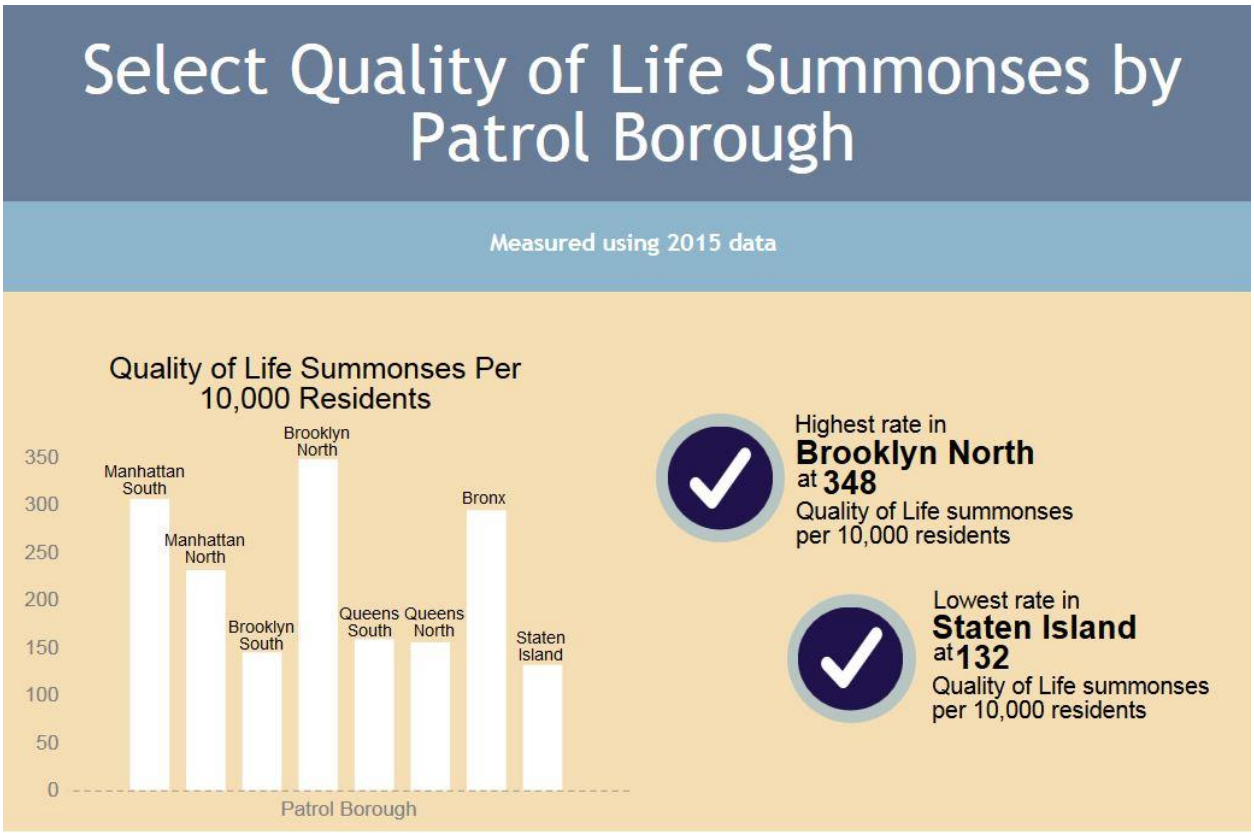


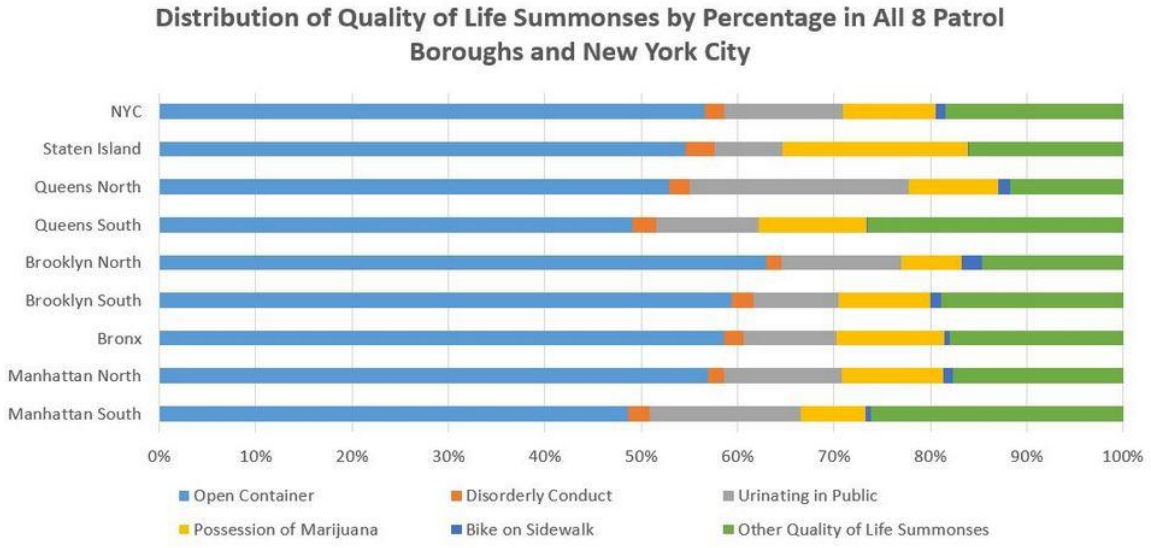
FIGURE 3

OIG-NYPD further disaggregated quality-of-life summonses into five of the most common categories for further analysis:

- open container violations;
- disorderly conduct;
- possession of marijuana;
- public urination; and
- bicycle riding on a sidewalk.

These five categories of violations made up 81.5% of the total number of quality-of-life summonses issued in 2015. The five categories, when examined at the patrol borough level, also evidenced disproportionate distribution patterns across New York City. The following infographic and Figures 4 – 8 depict these data.


Select Quality of Life Summonses by Patrol Borough
Measured using 2015 data
Quality of Life Summonses Per 10,000 Residents
350
300
250
200
150
100
50
0
Manhattan South
Manhattan North
Brooklyn South
Brooklyn North
Queens South
Queens North
Bronx
Staten Island
Patrol Borough
Highest rate in
Brooklyn North
at 348
Quality of Life summonses per 10,000 residents
Lowest rate in
Staten Island
at 132
Quality of Life summonses per 10,000 residents


Distribution of Quality of Life Summonses by Percentage in All 8 Patrol Boroughs and New York City
NYC
Staten Island
Queens North
Queens South
Brooklyn North
Brooklyn South
Bronx
Manhattan North
Manhattan South
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Open Container
Disorderly Conduct
Urinating in Public
Possession of Marijuana
Bike on Sidewalk
Other Quality of Life Summonses

Open Container Summons Rates by Precinct, 2015

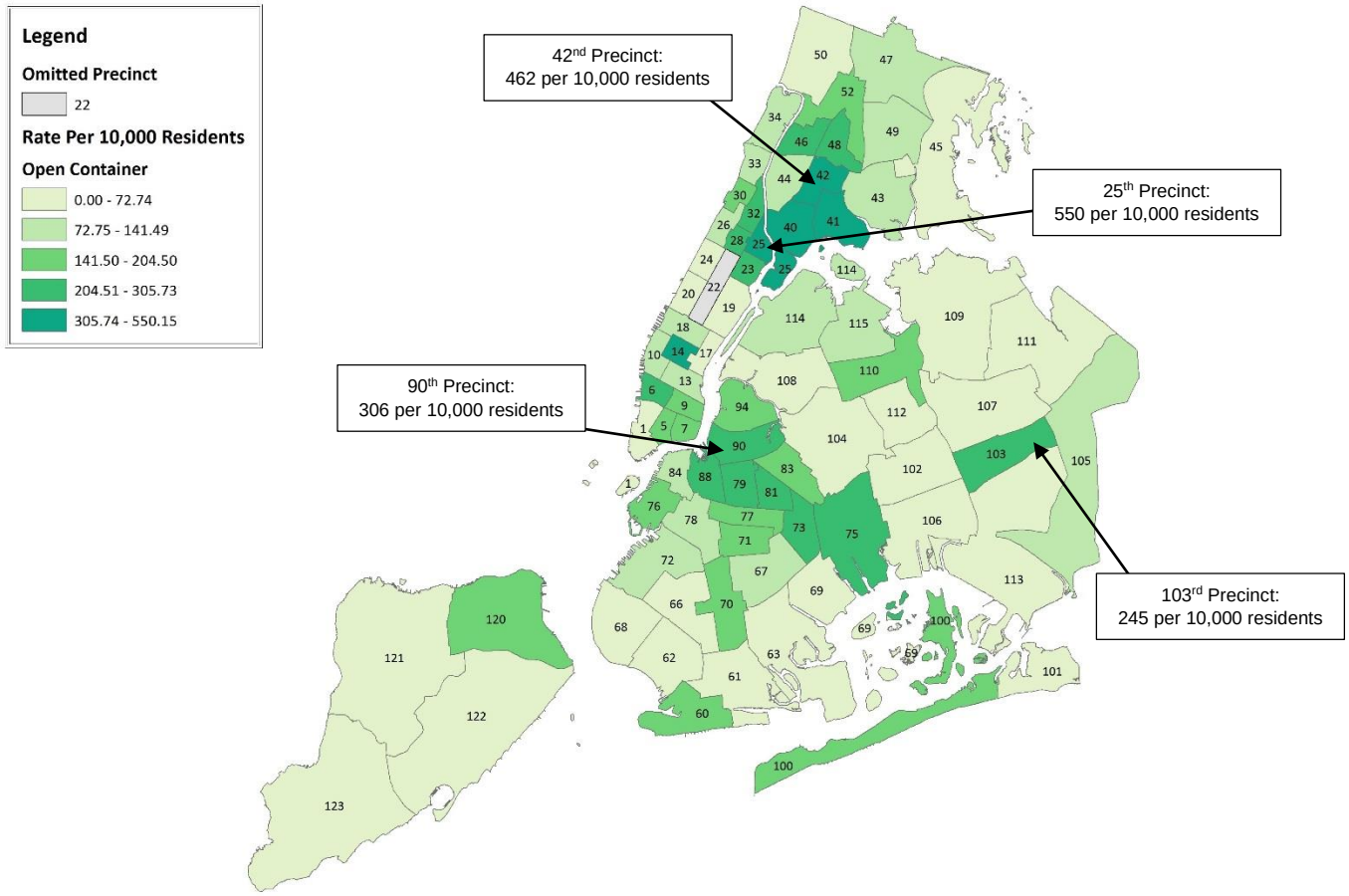


FIGURE 4

Disorderly Conduct Summons Rates by Precinct, 2015

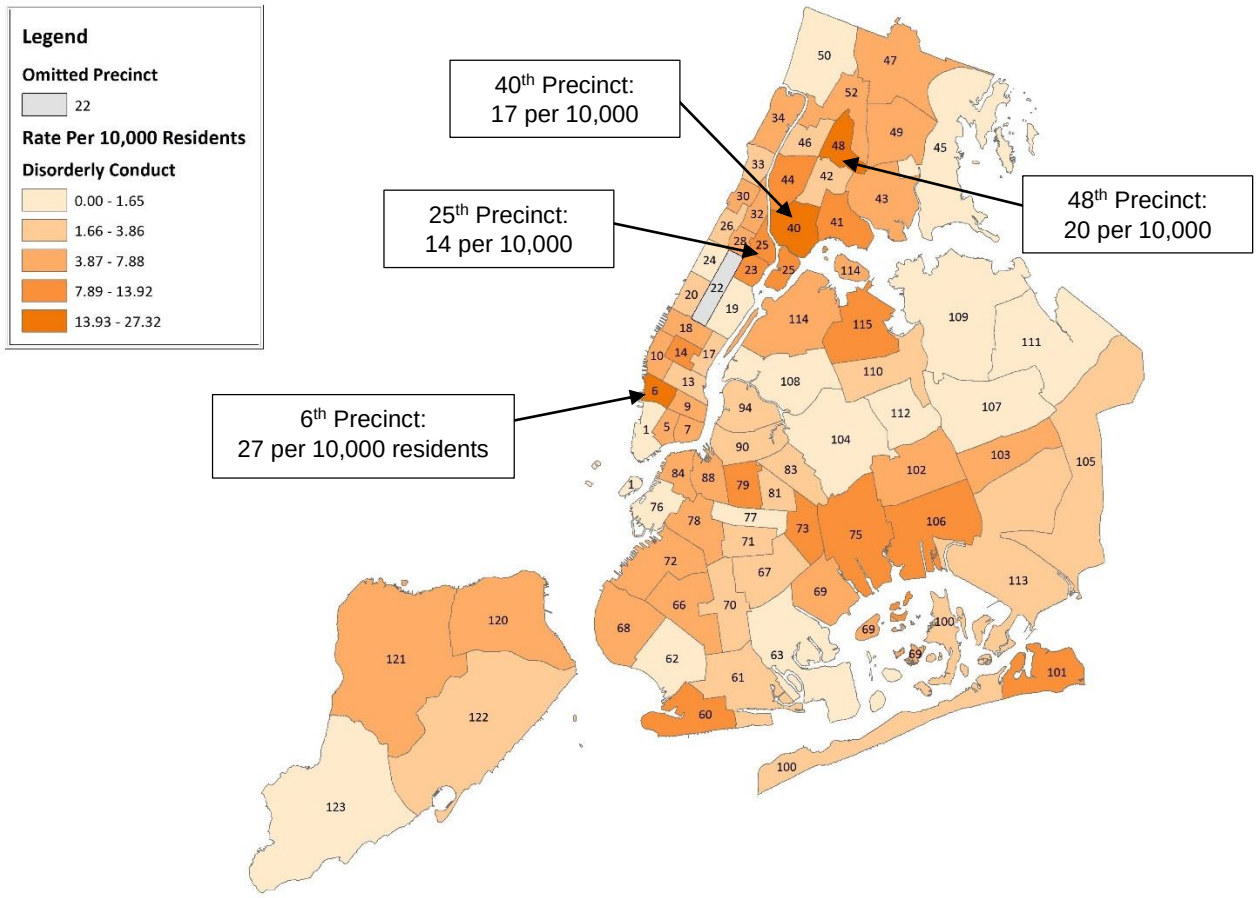


FIGURE 5

Possession of Marijuana Summons Rates by Precinct, 2015

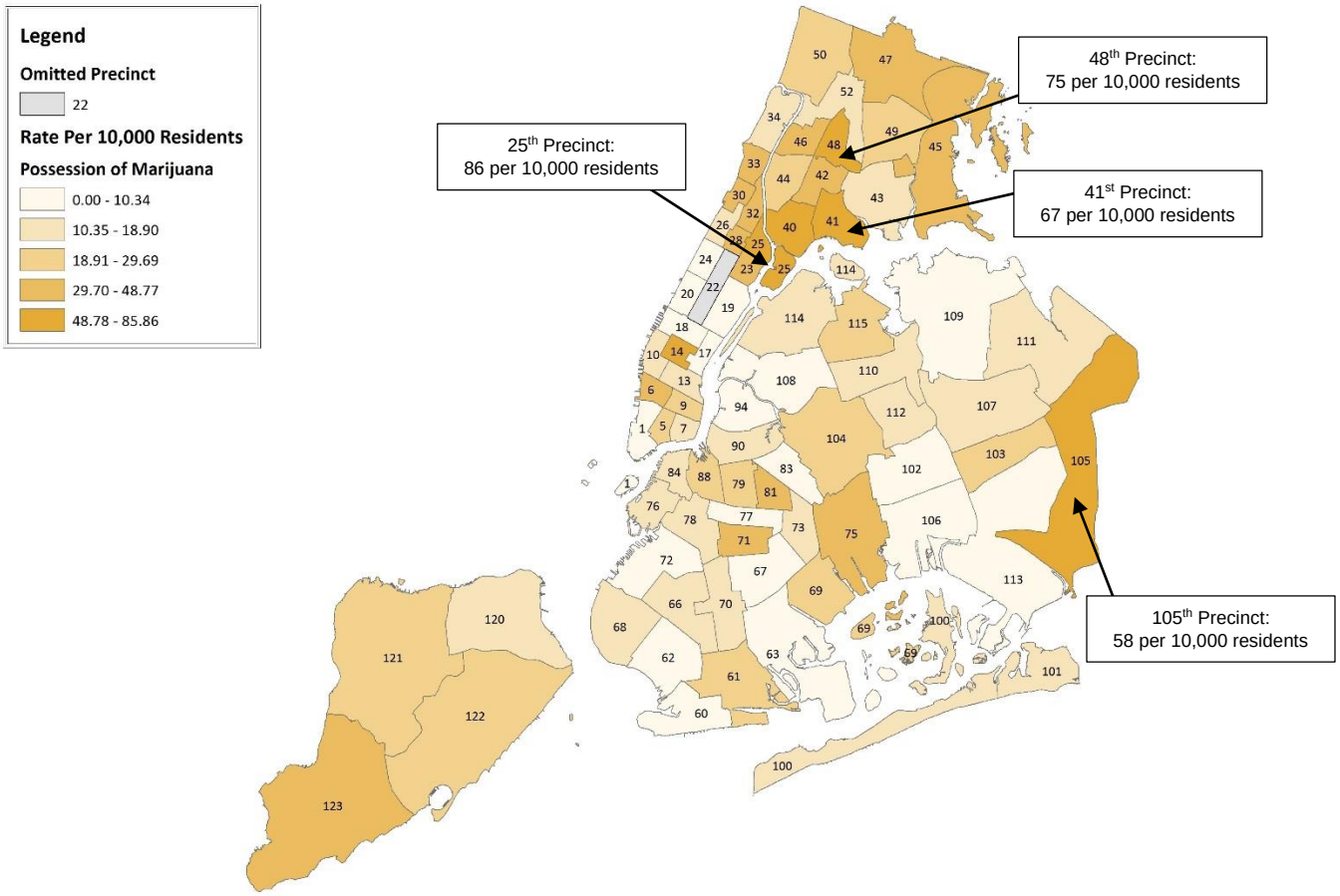


FIGURE 6

Public Urination Summons Rates by Precinct, 2015

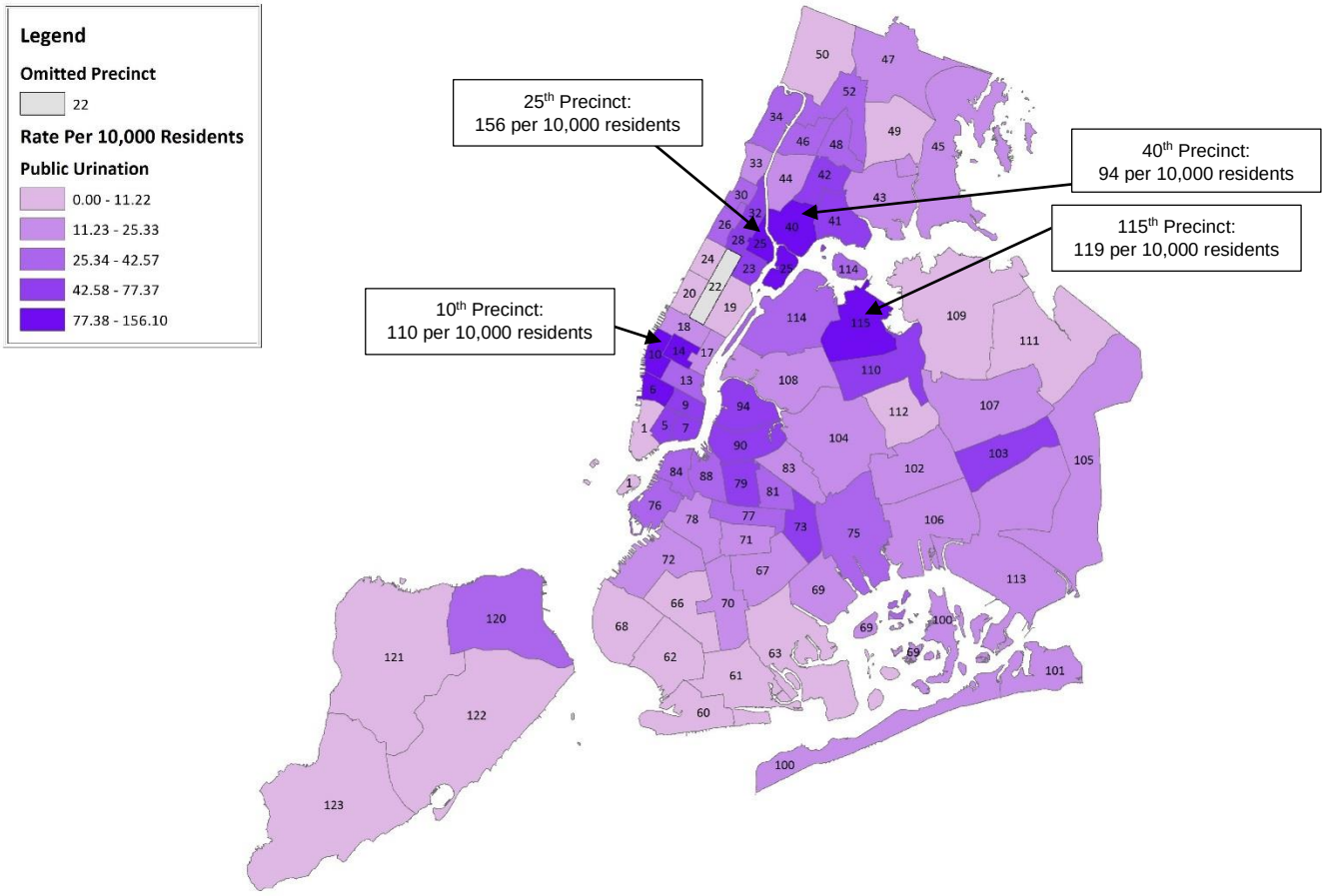


FIGURE 7

Bicycle on Sidewalk Summons Rates by Precinct, 2015

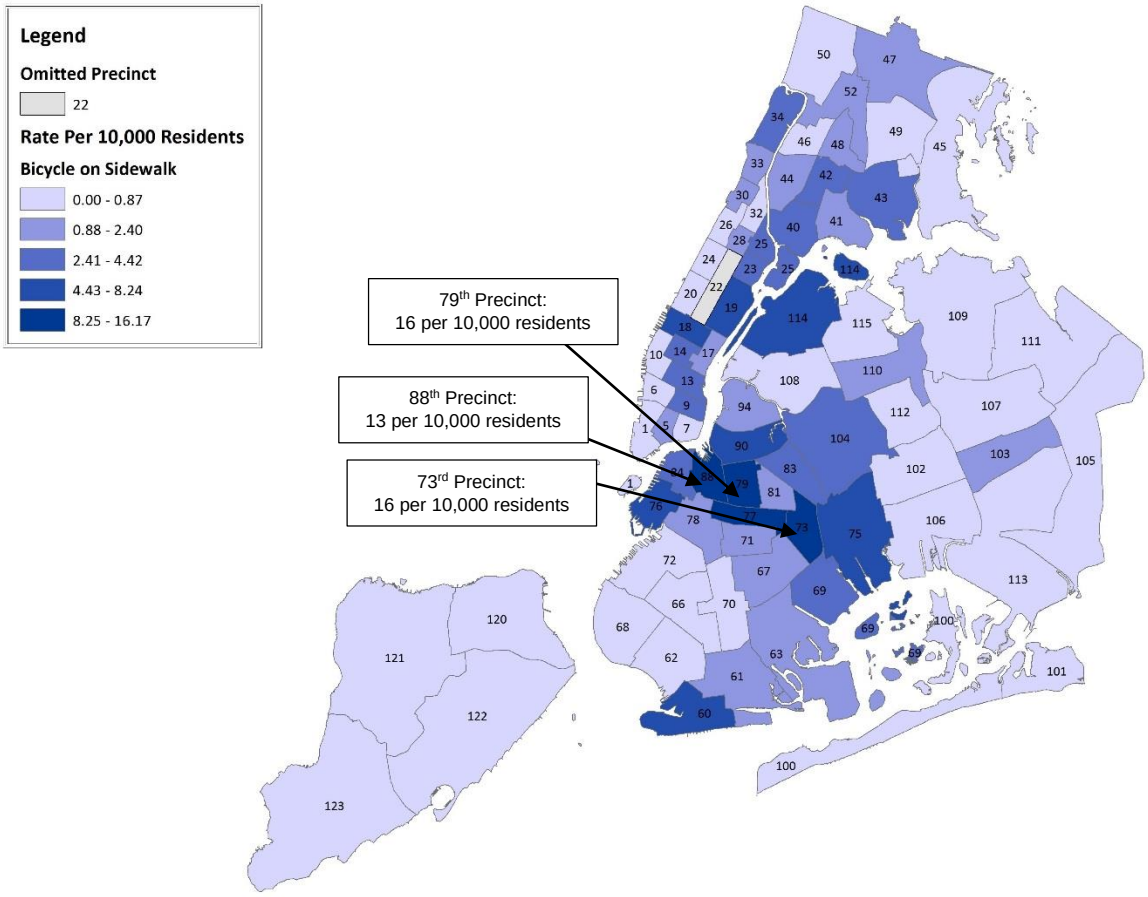


FIGURE 8

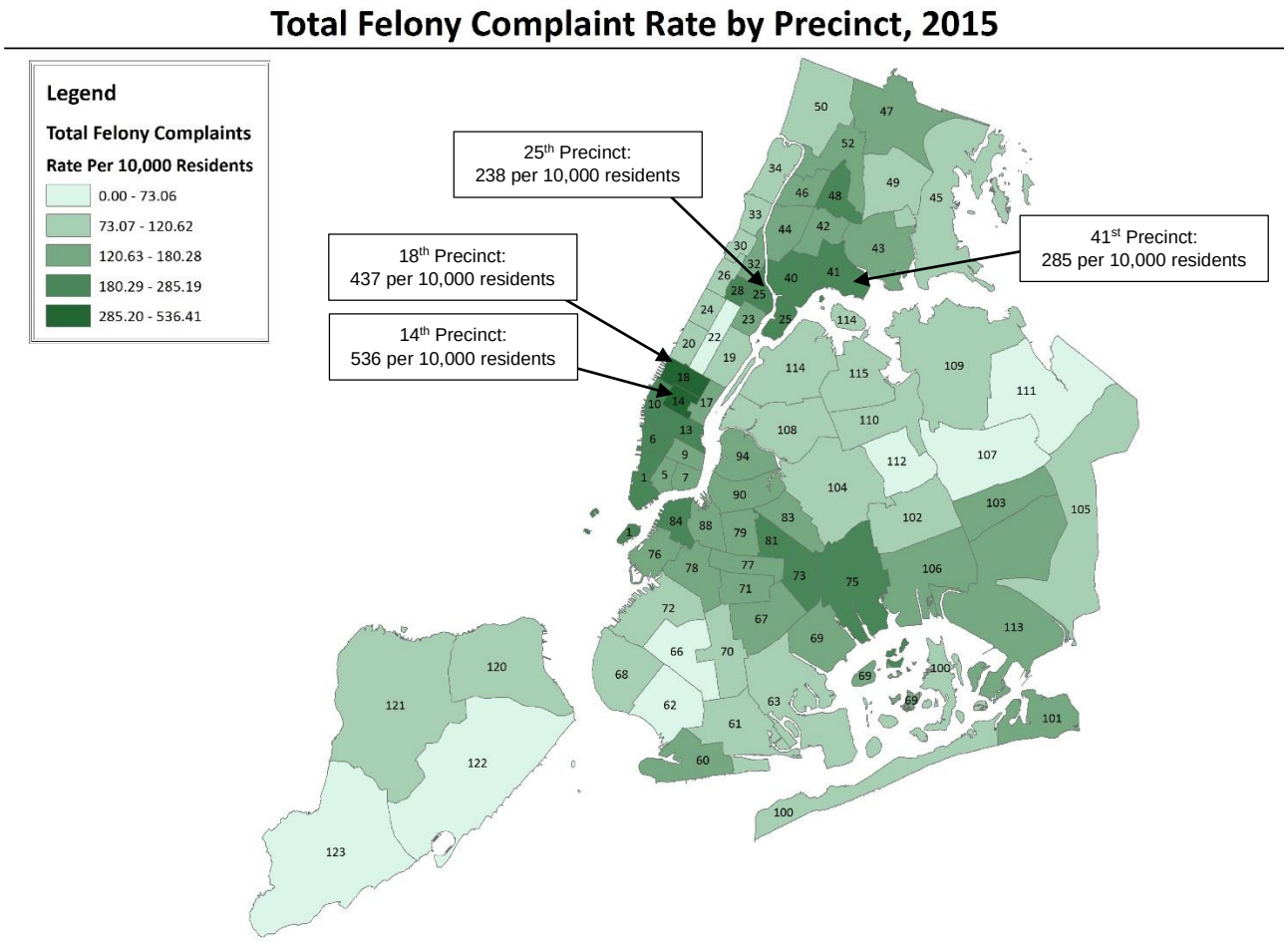


FIGURE 9

Citywide, open container violations made up nearly 70% or more of quality-of-life summonses in these five categories, and at least 60% of quality-of-life summonses given out in each patrol borough in 2015.

Public urination was the second most frequently issued summons category in Staten Island, Queens North, Brooklyn North, Brooklyn South, and Manhattan South. Possession of marijuana was the second most frequently issued summons in Queens South, the Bronx, and Manhattan North.

Brooklyn South received the highest percentage of open container, disorderly conduct, and possession of marijuana summonses in 2015.[50] The Bronx had the highest percentage of public urination summonses, and Queens South had the highest percentage of bicycle on sidewalk summonses issued .

[50] As previously noted, the rates that were calculated for this analysis are based on resident population counts that exclude commuters, tourists, and other impermanent groups.

Total Property Complaint Rate by Precinct, 2015

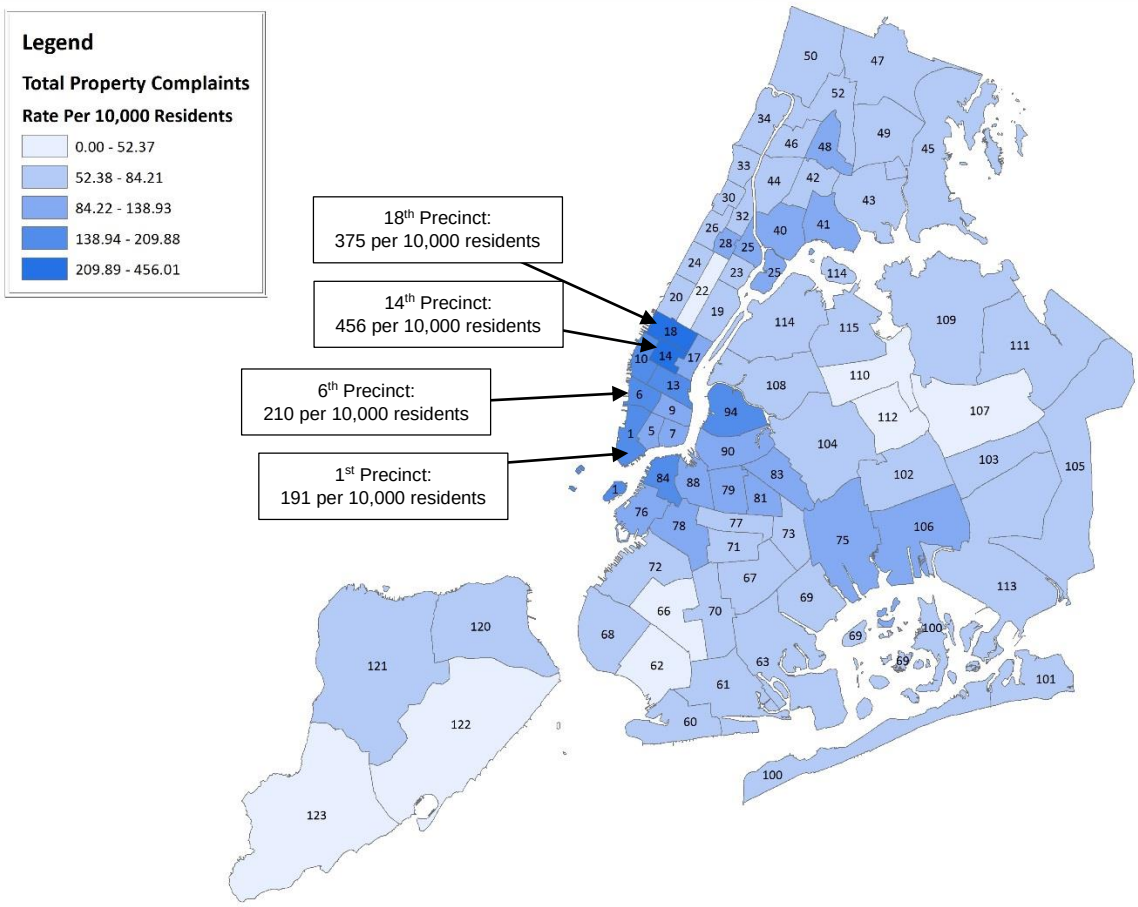


FIGURE 10

Diversity in the distribution of quality-of-life enforcement is to be expected. Different New York City neighborhoods have differing quality-of-life challenges as well as differing sets of criminal conditions, and each precinct has its own unique rate of petty, violent, and property crime. Increased rates of quality-of-life enforcement would be expected to coincide with rates of felony crime complaints as officers in higher-crime precincts respond to felony crime conditions with disorder reduction strategies and greater police presence overall. The maps in Figures 9, 10, and 11 depict rates of felony crime complaints in New York City in 2015.

Many of the same precincts that have higher rates of quality-of-life enforcement also have higher rates of violent and property crime complaints. This is especially true for violent crime. Precincts with the high violent crime rates also have some of the highest rates of quality-of-life enforcement in the City: 25th, 40th, 41st, and 73rd Precincts.

Total Violent Complaint Rate by Precinct, 2015

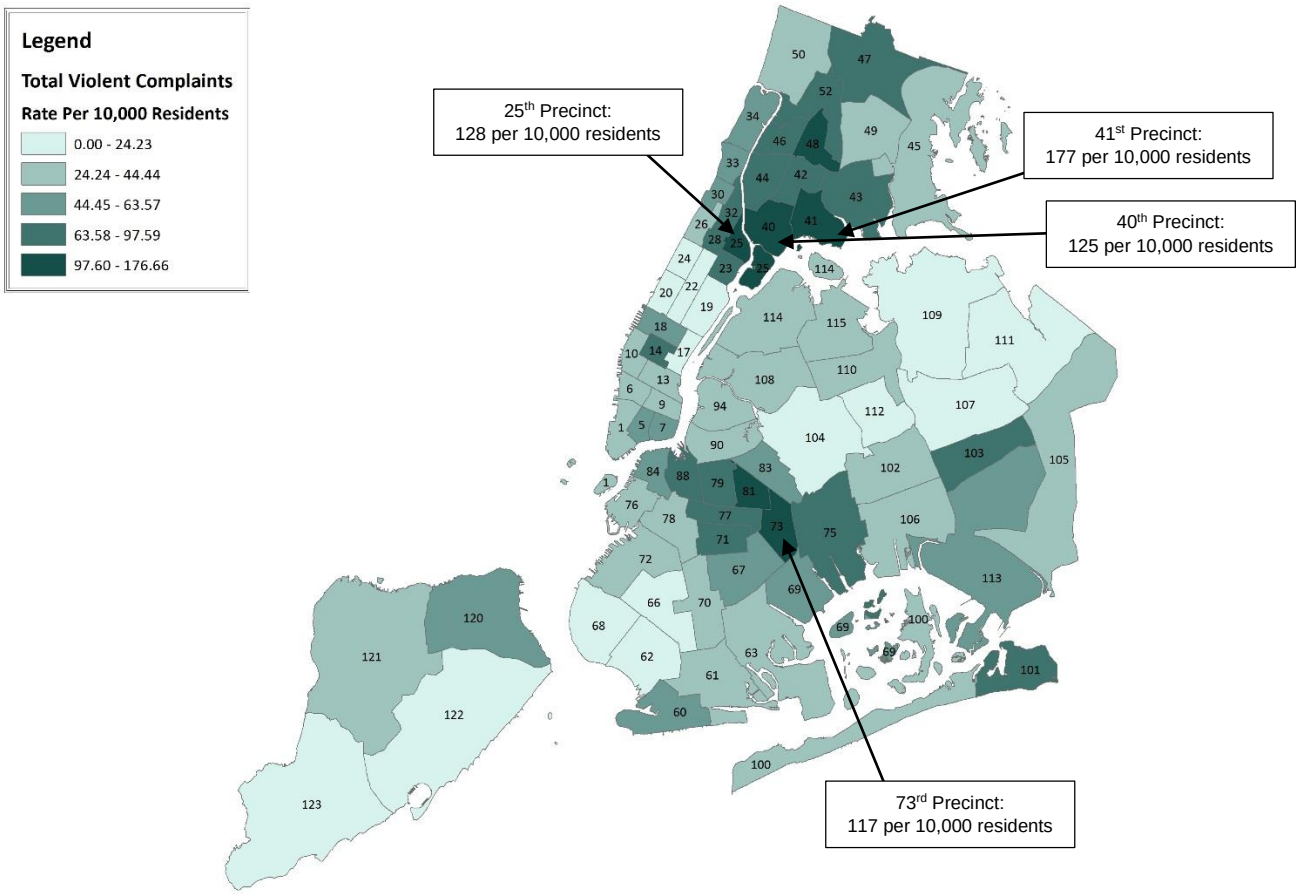
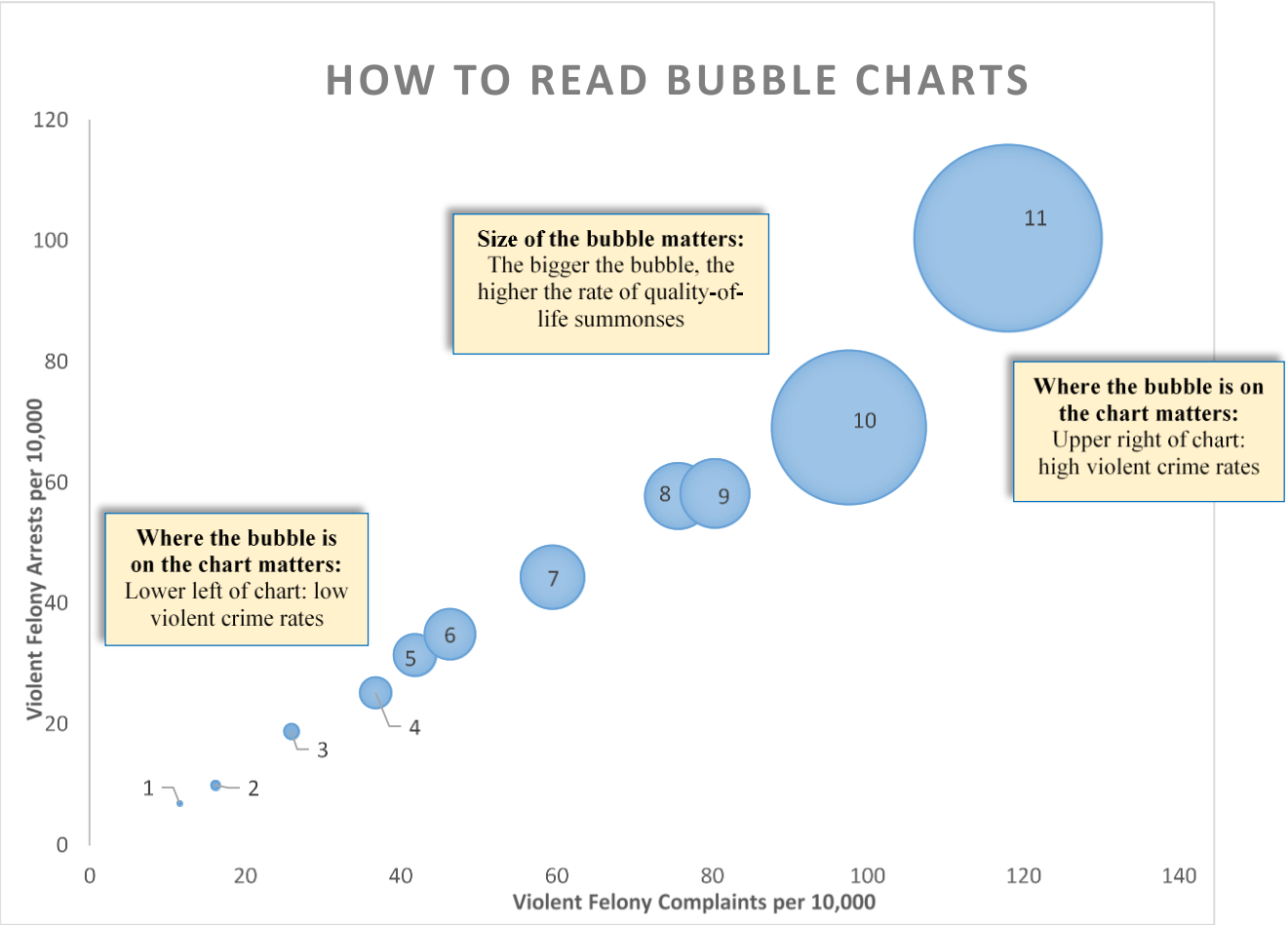


FIGURE 11

A further precinct-level comparison of the various relationships that exist between violent crime, violent felony arrests, and quality-of-life summons activity is depicted in Figures 12-16, which are borough-level bubble charts. This depiction is important to understanding how quality-of-life summons rates relate to a precinct's violent crime, and how precincts within boroughs compare. Each bubble represents a precinct. The size of each bubble increases as the rate of quality-of-life summonses in a precinct increases. Bubbles toward the lower left corner of the graph represent precincts with lower rates of violent crime as measured by both violent crime complaints and arrests, whereas bubbles on the upper right of the graph are precincts with higher rates of violent crime. If there is a relationship between quality-of-life summons activity and violent crime, each graph would depict smaller bubbles toward the lower left of the graph, and bubbles would increase in size at an exponential rate as they approach the upper right hand side of the graph.

This is the relationship that is most often seen, though there are several exceptions.

Point of Information:
In "bubble" charts like these, the larger bubbles indicate higher rates of quality-of-life summonses. Larger bubbles would be expected in precincts with higher rates of violent crime and/or police enforcement activity and should appear at the top right of the chart. Conversely, smaller bubbles should appear at the bottom left of the chart.



In this example chart, the quality-of-life summons rate is lowest in precincts with lower violent crime rates (measured by both violent felony arrests and violent felony complaints), and highest in precincts with higher violent crime rates. This graph is an example of what would be expected if quality-of-life summons rates are related to violent crime rates.

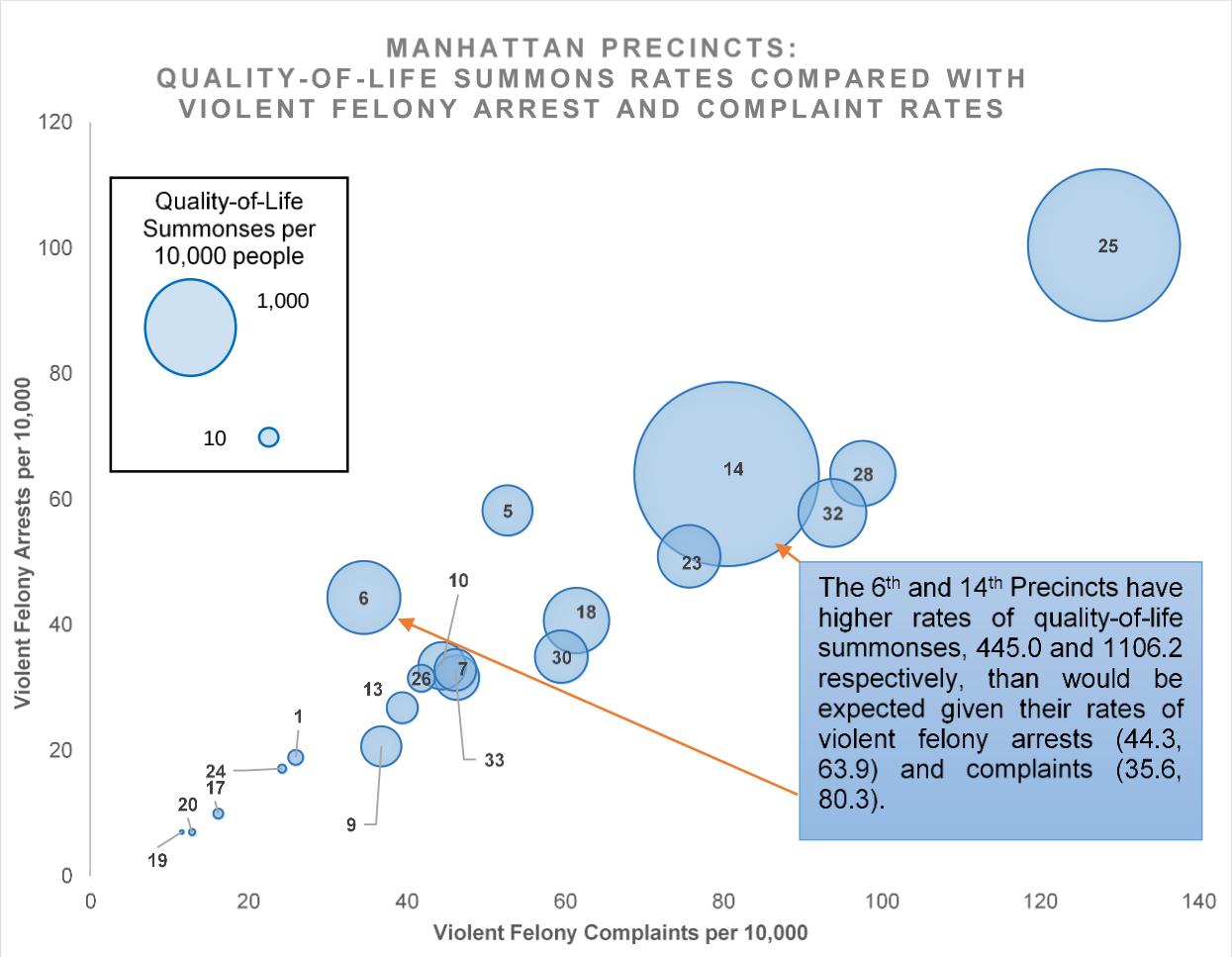

MANHATTAN PRECINCTS:
QUALITY-OF-LIFE SUMMONS RATES COMPARED WITH VIOLENT FELONY ARREST AND COMPLAINT RATES
Quality-of-Life Summonses per 10,000 people
1,000
10
Violent Felony Arrests per 10,000
Violent Felony Complaints per 10,000
0
20
40
60
80
100
120
140
25
14
28
32
23
5
6
10
18
30
7
26
13
1
33
24
17
20
9
19
The 6th and 14th Precincts have higher rates of quality-of-life summonses, 445.0 and 1106.2 respectively, than would be expected given their rates of violent felony arrests (44.3, 63.9) and complaints (35.6, 80.3).

FIGURE 12

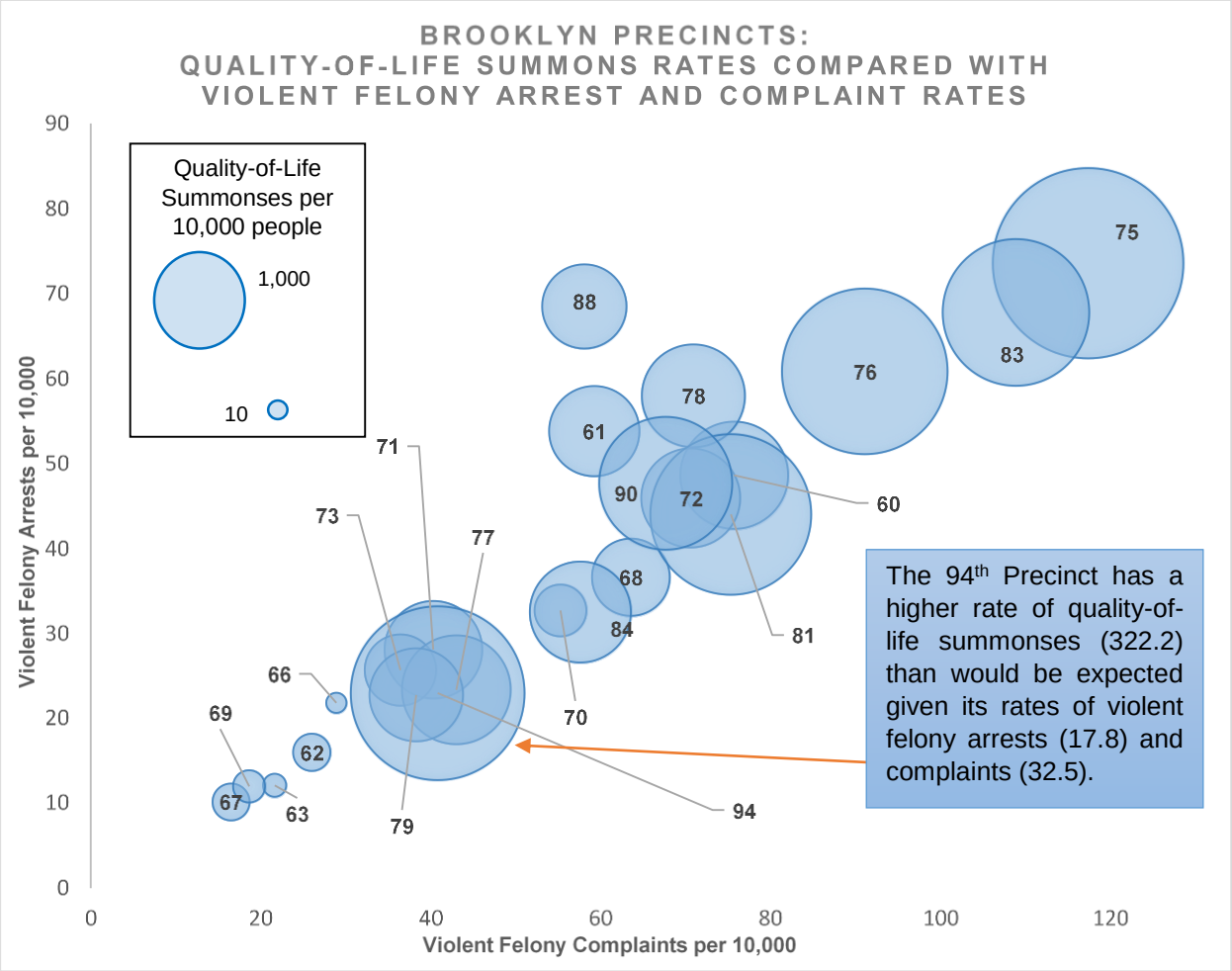

BROOKLYN PRECINCTS:
QUALITY-OF-LIFE SUMMONS RATES COMPARED WITH VIOLENT FELONY ARREST AND COMPLAINT RATES
Quality-of-Life Summonses per 10,000 people
1,000
10
Violent Felony Arrests per 10,000
Violent Felony Complaints per 10,000
0
10
20
30
40
50
60
70
80
90
0
20
40
60
80
100
120
75
83
76
88
78
61
90
72
60
71
73
77
68
84
81
66
69
62
67
63
79
70
94
The 94th Precinct has a higher rate of quality-of-life summonses (322.2) than would be expected given its rates of violent felony arrests (17.8) and complaints (32.5).

FIGURE 13

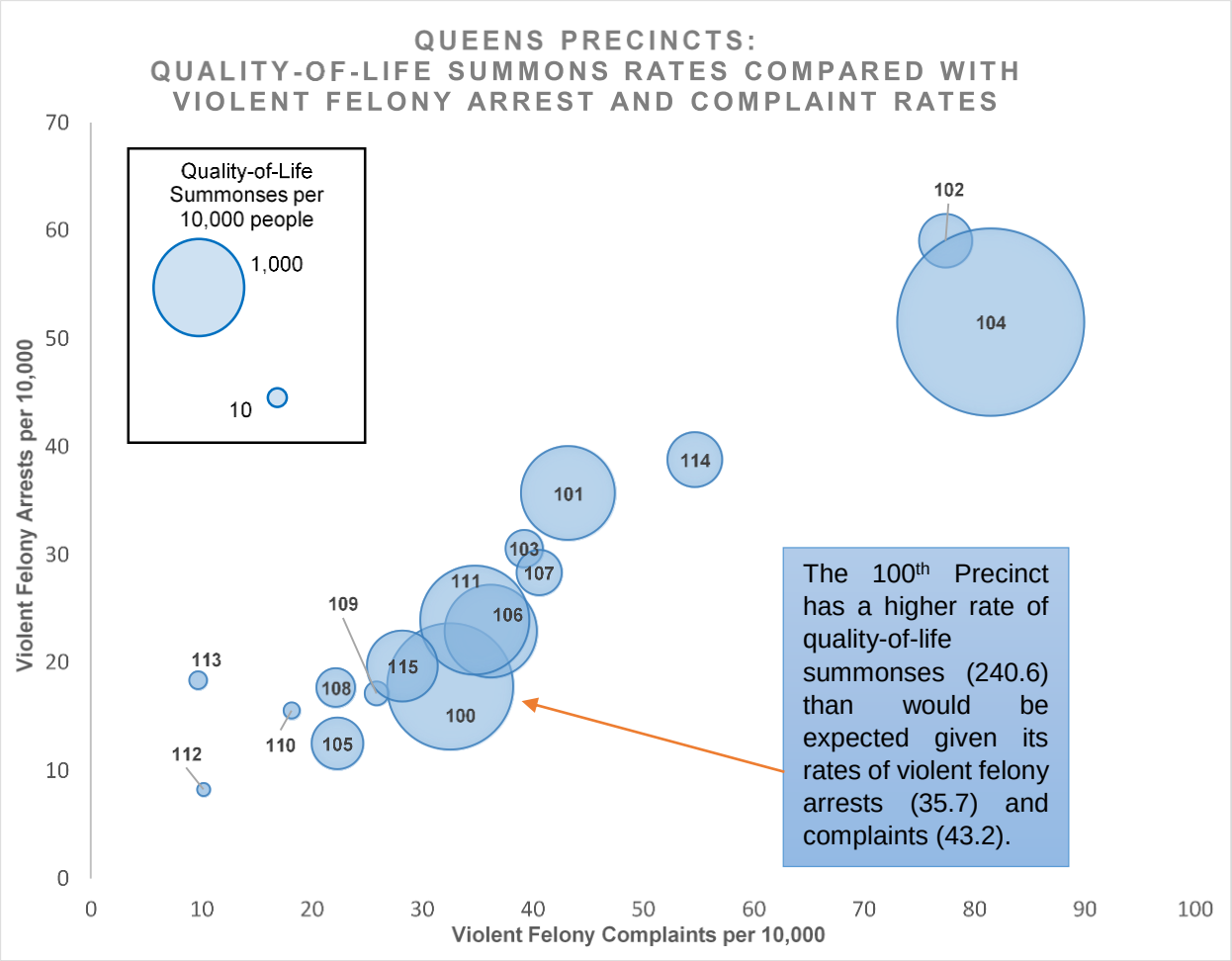

QUEENS PRECINCTS:
QUALITY-OF-LIFE SUMMONS RATES COMPARED WITH VIOLENT FELONY ARREST AND COMPLAINT RATES
Quality-of-Life Summonses per 10,000 people
1,000
10
Violent Felony Arrests per 10,000
Violent Felony Complaints per 10,000
0
10
20
30
40
50
60
70
80
90
100
102
104
114
101
103
107
111
106
109
115
113
108
100
110
105
112
The 100th Precinct has a higher rate of quality-of-life summonses (240.6) than would be expected given its rates of violent felony arrests (35.7) and complaints (43.2).

FIGURE 14

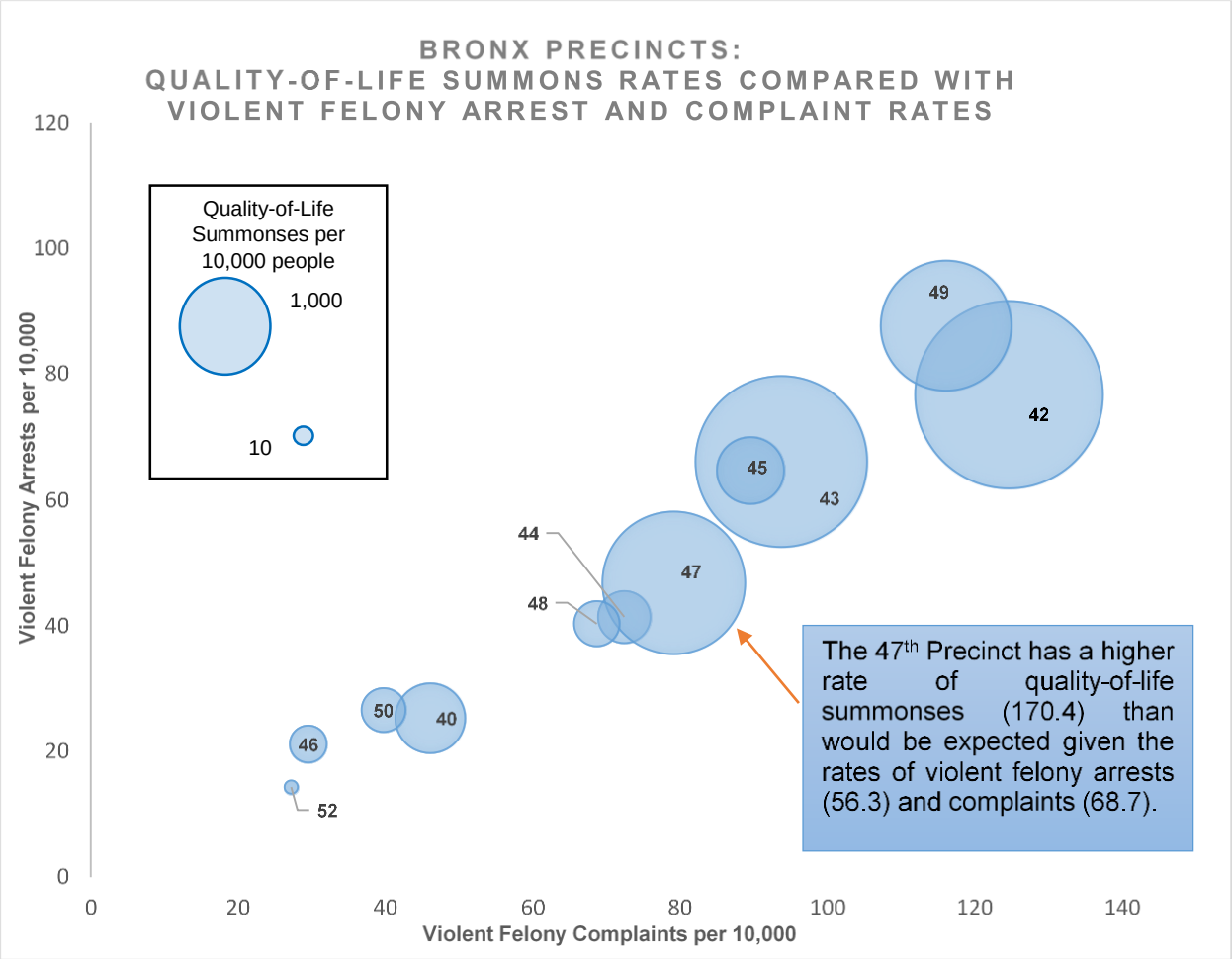

BRONX PRECINCTS:
QUALITY-OF-LIFE SUMMONS RATES COMPARED WITH VIOLENT FELONY ARREST AND COMPLAINT RATES
Quality-of-Life Summonses per 10,000 people
1,000
10
Violent Felony Arrests per 10,000
Violent Felony Complaints per 10,000
0
20
40
60
80
100
120
140
49
42
45
43
44
47
48
50
40
46
52
The 47th Precinct has a higher rate of quality-of-life summonses (170.4) than would be expected given the rates of violent felony arrests (56.3) and complaints (68.7).

FIGURE 15

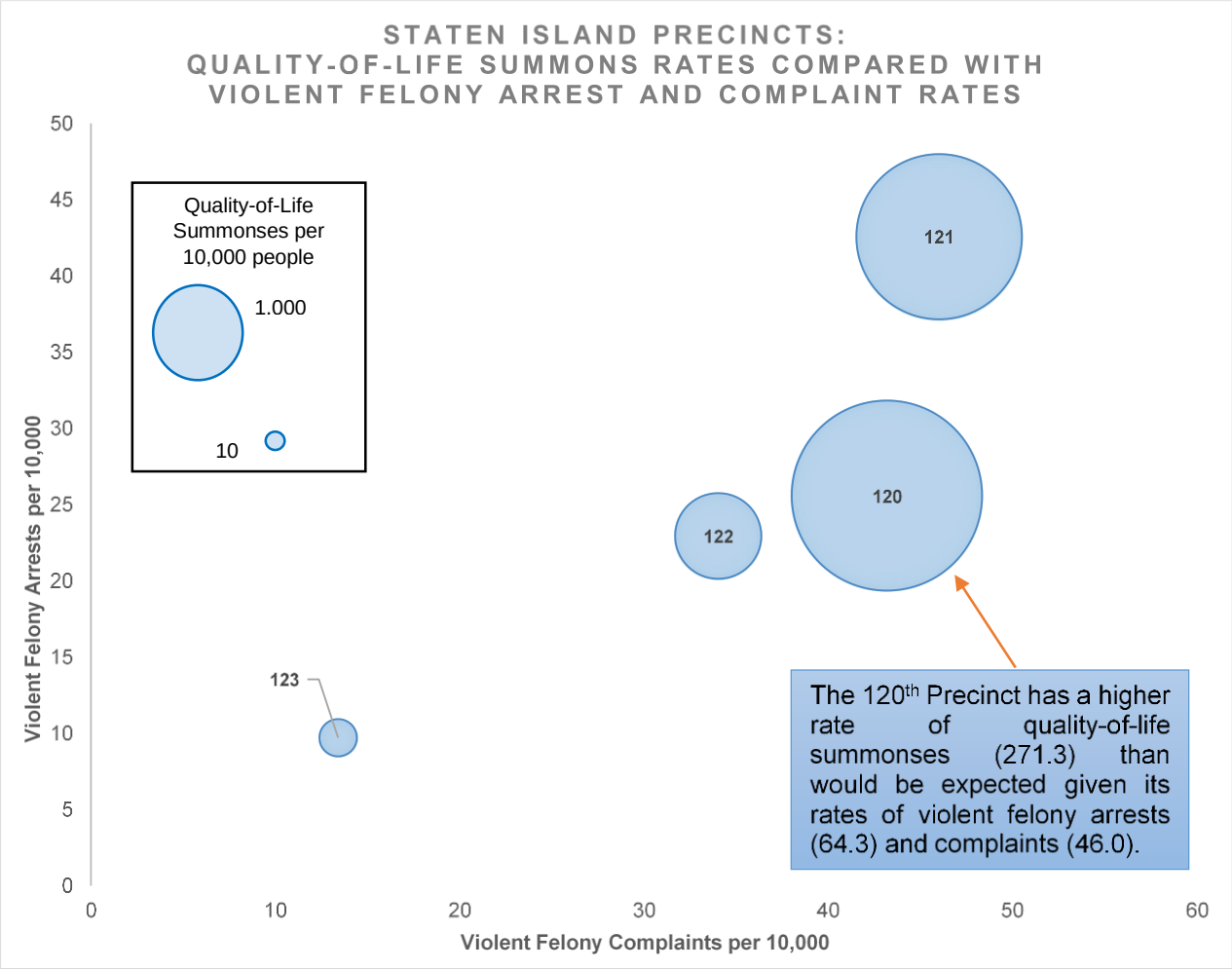


FIGURE 16

* *Staten Island has only four precincts.*

1. Correlation Analysis: The Connection between Quality-of-Life Enforcement and Demographic Factors[51]

In this analysis, OIG-NYPD sought to answer the following questions:

1) Are there demographic disparities in how quality-of-life summonses or quality-of-life misdemeanor arrests are distributed in New York City?

2) If so, do higher crime rates potentially explain these disparities?

New York City is a diverse area with a large degree of variance in demographic statistics. An examination of 2010 U.S. Census demographic estimates reveals that the proportion of precinct residents who identify as Hispanic, for instance, ranged from 4.2% to 74.8% across precincts, while the proportion of black residents ranged from 0.8% to 88.4% across precincts, and the proportion of white residents ranged from 0.9% to 85.0% across precincts. The proportion of precinct residents who were males aged 15-20 ranged from 0.5% to 8.0%, and precincts' proportions of NYCHA residents ranged from 0.0% to 34.1%.

Following the examination of 2015 crime and quality-of-life offense distribution across all five boroughs, OIG-NYPD ran correlations to identify any trends in the relationship between quality-of-life enforcement and demographic background. OIG-NYPD ran two types of correlations: a *bivariate* correlation, which allows comparison of two variables, and a *partial* correlation, which allows comparison of two or more variables while controlling for the influence of others.[vii]

A bivariate correlation was run to examine whether precincts with higher proportions of people of color, young men, or NYCHA residents also have higher rates of quality-of-life enforcement or felony crime. Because OIG-NYPD did not analyze incident-level data, the demographics of individuals who received summonses or who were arrested is unknown.[52] NYPD senior officials have stated that NYPD does not deploy resources based on race, nor does it target particular types of people or neighborhoods. OIG-NYPD's findings should not be taken to indicate otherwise. The precinct-level unit of analysis employed in this analysis cannot be

[51] A correlation analysis is a statistical analysis of two variables that explains how the variables trend together. Correlations are important to establish whether apparent relationships between two numbers of interest (for example, the rate of quality-of-life summonses and precincts' proportion of residents who are black) are associated in a way that is statistically significant.

[52] Incident-level data on race and ethnicity on C-summonses was not available for the majority of the study period. Until recently, demographic information of summons recipients has been inconsistently recorded. New York City Mayor Bill de Blasio and Chief Judge Lippman of the New York City Court of Appeals announced an overhaul to the summons system on April 14, 2015. The changes include a redesigned summons form that will capture this demographic information. http://www1.nyc.gov/office-of-the-mayor/news/235-15/mayor-de-blasio-chief-judge-lippman-justice-reboot-initiative-modernize-the.

used to determine whether specific individuals of any race are disproportionately impacted by quality-of-life enforcement.

A summary of the variables used in the bivariate correlational analysis can be found in Table 1. Once these initial variable relationships were observed, OIG-NYPD sought to determine whether precincts with higher proportions of people of color, young men, or NYCHA residents *and* higher rates of quality-of-life enforcement had felony crime rates that were proportionate with their rates of quality-of-life policing. In other words, are clusters of higher rates of quality-of-life enforcement explained by higher rates of felony crime in these communities?[53] To determine this, OIG-NYPD conducted a statistical analysis of partial correlations to explore whether any relationships between demographic variables and rates of quality-of-life enforcement are explained by commensurately higher or lower rates of felony crime.[viii] A summary of the variables used in the partial correlational analysis can be found in Table 1.

Variables in the Bivariate Correlational Analysis ***Used to Indicate Relationships between Demographics and Rates of Quality-of-Life Enforcement***	
Demographic Variables	**Quality-of-Life Enforcement Variables**
• Proportion of Population that is Hispanic • Proportion of Population that is Black • Proportion of Population that is White • Proportion of Population that is Male aged 15-20 • Proportion of Population that resides in NYCHA housing	• Quality-of-Life Summonses • Quality-of-Life Misdemeanor Arrests

Variables in the Partial Correlational Analysis ***Used to Indicate Whether Relationships between Demographics and Rates of Quality-of-Life Enforcement May Be Explained by Felony Crime***		
Demographic Variables	**Quality-of-Life Enforcement Variables**	**Control Variables**
• Proportion of Population that is Hispanic • Proportion of Population that is Black • Proportion of Population that is White • Proportion of Population that is Male aged 15-20 • Proportion of Population that resides in NYCHA housing	• Quality-of-Life Summonses • Quality-of-Life Misdemeanor Arrests	• Felony Crime Complaints • Property Crime Complaints • Violent Crime Complaints

TABLE 1

[53] It is important to note that by conducting this analysis, OIG-NYPD is not stating that a higher crime rate is a justification for increasing the use of summonses. That is a complex judgment. Rather, this analysis solely seeks to determine whether a correlation exists between quality-of-life enforcement and felony crime.

2. Correlation Findings

Key Findings:

- Precincts with higher proportions of black and Hispanic residents, males aged 15-20, and NYCHA residents had generally higher rates of quality-of-life enforcement; conversely, precincts with higher proportions of white residents had lower rates of quality-of-life enforcement.
- Property crime rates do not explain the demographic disparity of quality-of-life enforcement.
- Higher rates of violent crime may account for why quality-of-life enforcement rates are higher in precincts with higher proportions of Hispanic and NYCHA residents.
- Precincts with higher rates of residents who are black or males aged 15-20 received lower rates of quality-of-life enforcement than these precincts' higher violent crime rates would predict.
- Precincts with more white residents received higher rates of quality-of-life enforcement than these precincts' lower violent crime rates would predict.

(Note: As explained in footnote 53 above, this analysis does *not* consider the policy question of whether an increase in violent crime justifies an increase in summons activity; it only considers whether a correlation exists.)

OIG-NYPD's bivariate correlations indicated statistically significant relationships between demographic characteristics and crime complaints.[ix] Precincts with higher proportions of black and Hispanic residents, males aged 15-20, and NYCHA residents had higher rates of quality-of-life summonses and quality-of-life misdemeanors. Conversely, precincts with higher proportions of white residents had much lower rates of quality-of-life enforcement. The strength of these relationships are depicted in Figure 18.

Bar graphs in this section depict relationship strength in terms of *correlation coefficients*. The correlation coefficient is a figure between zero (meaning that there is no correlation between variables) and one (meaning that the variables are perfectly correlated). The farther the number is from zero, in either a positive or negative direction, the stronger the correlation. When two variables are positively correlated, both variables move in the same direction—either both increase in tandem or decrease in tandem—and the strength of this relationship tells us how likely it is that the link is non-random, or that one variable influences the other. When two variables are negatively correlated, the variables move in opposite directions—as one increases, the other decreases.

The second bar graph, Figure 19, depicts the strength of relationships found in the partial correlation analysis, in which OIG-NYPD controlled for effects of felony crime rates on the relationship between demographic variables and quality-of-life enforcement rates. A number of relationships between demographic variables and quality-of-life enforcement remained statistically significant when controlling for aggregate felony crime.[x] Precincts with higher rates of black and Hispanic residents, males aged 15 to 20, and NYCHA residents continued to have higher rates quality-of-life enforcement, even when controlling for total felony crime rates in those precincts. Only one relationship was accounted for by higher

rates of total felony crime. Higher rates of quality-of-life misdemeanor arrests in precincts with higher proportions of black residents *are* accounted for by higher rates of aggregate felony crime.

These findings indicate that, generally, higher rates of aggregate felony crime do *not* explain why there are higher rates of quality-of-life summonses or, in most cases, quality-of-life misdemeanor arrests in precincts with higher proportions of black and Hispanic residents, males aged 15 to 20, and NYCHA residents. In short, these precincts experienced *higher* rates of quality-of-life enforcement than would be expected given their rates of combined felony crimes.

Conversely, precincts with higher rates of white residents remained negatively correlated with quality-of-life summonses and misdemeanor arrests when controlling for total felony crime. This indicates that these precincts are receiving *less* quality-of-life enforcement than would be expected given their rates of aggregate felony crime—in short, lower rates of total felony crime in these precincts do not explain why their rates of quality-of-life summonses and quality-of-life misdemeanor arrests are so low.

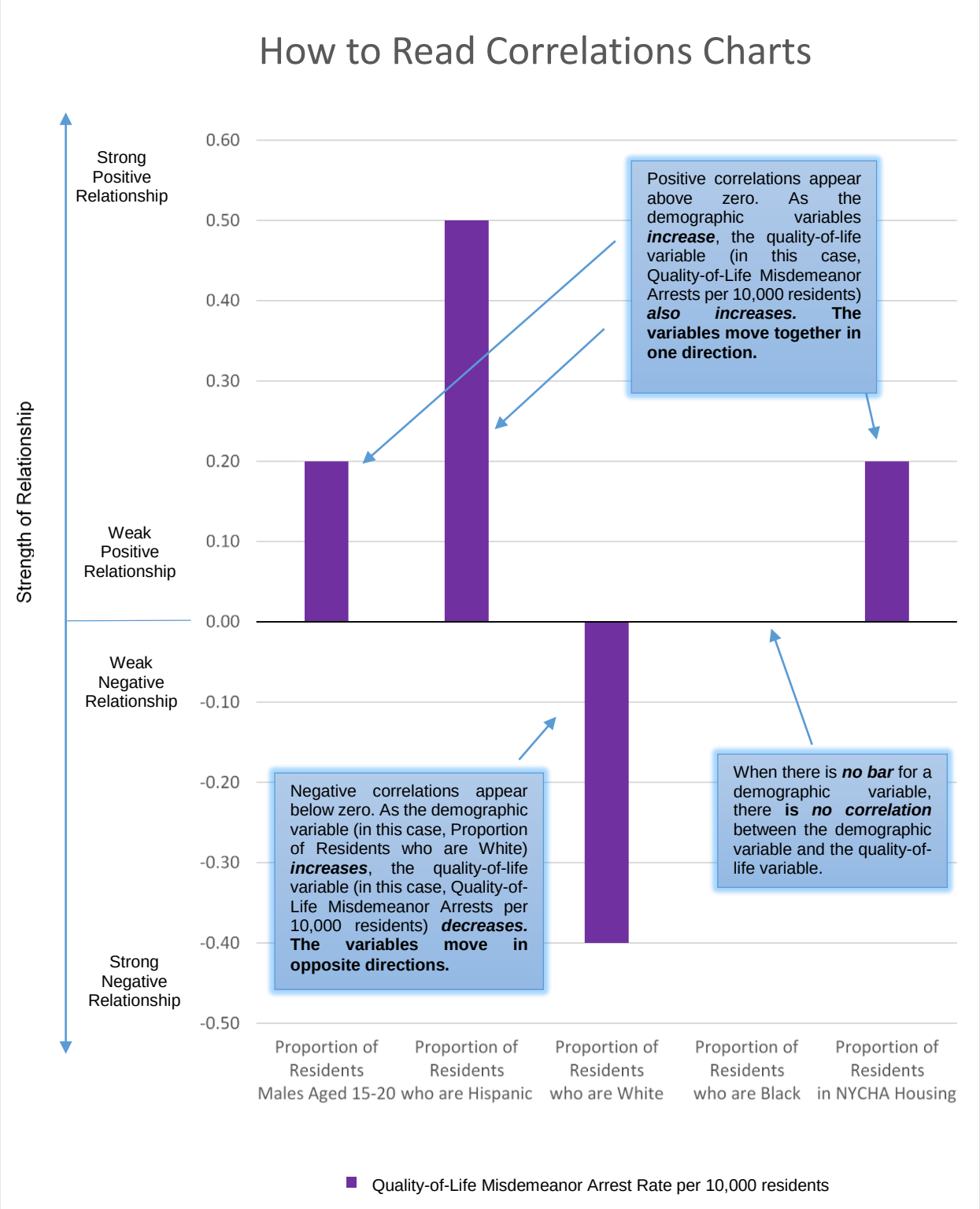

How to Read Correlations Charts
Strength of Relationship
Strong Positive Relationship
Weak Positive Relationship
Weak Negative Relationship
Strong Negative Relationship
0.60
0.50
0.40
0.30
0.20
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
Positive correlations appear above zero. As the demographic variables ***increase***, the quality-of-life variable (in this case, Quality-of-Life Misdemeanor Arrests per 10,000 residents) ***also increases.*** **The variables move together in one direction.**
Negative correlations appear below zero. As the demographic variable (in this case, Proportion of Residents who are White) ***increases***, the quality-of-life variable (in this case, Quality-of-Life Misdemeanor Arrests per 10,000 residents) ***decreases.*** **The variables move in opposite directions.**
When there is ***no bar*** for a demographic variable, there **is *no correlation*** between the demographic variable and the quality-of-life variable.
Proportion of Residents Males Aged 15-20
Proportion of Residents who are Hispanic
Proportion of Residents who are White
Proportion of Residents who are Black
Proportion of Residents in NYCHA Housing
Quality-of-Life Misdemeanor Arrest Rate per 10,000 residents

FIGURE 17

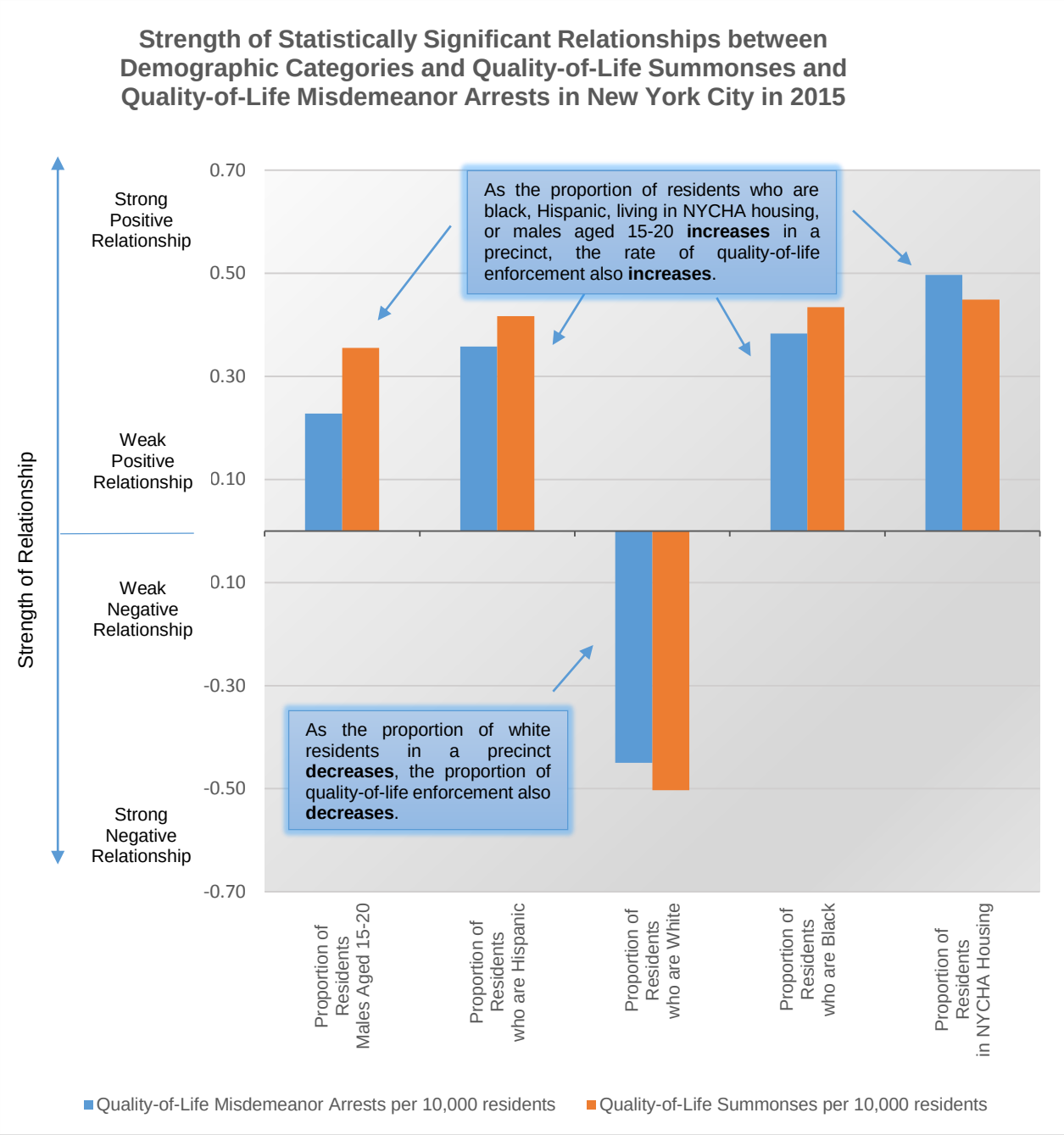

Strength of Statistically Significant Relationships between Demographic Categories and Quality-of-Life Summonses and Quality-of-Life Misdemeanor Arrests in New York City in 2015
Strength of Relationship
Strong Positive Relationship
Weak Positive Relationship
Weak Negative Relationship
Strong Negative Relationship
0.70
0.50
0.30
0.10
0.10
-0.30
-0.50
-0.70
As the proportion of residents who are black, Hispanic, living in NYCHA housing, or males aged 15-20 increases in a precinct, the rate of quality-of-life enforcement also increases.
As the proportion of white residents in a precinct decreases, the proportion of quality-of-life enforcement also decreases.
Proportion of Residents Males Aged 15-20
Proportion of Residents who are Hispanic
Proportion of Residents who are White
Proportion of Residents who are Black
Proportion of Residents in NYCHA Housing
Quality-of-Life Misdemeanor Arrests per 10,000 residents
Quality-of-Life Summonses per 10,000 residents

FIGURE 18

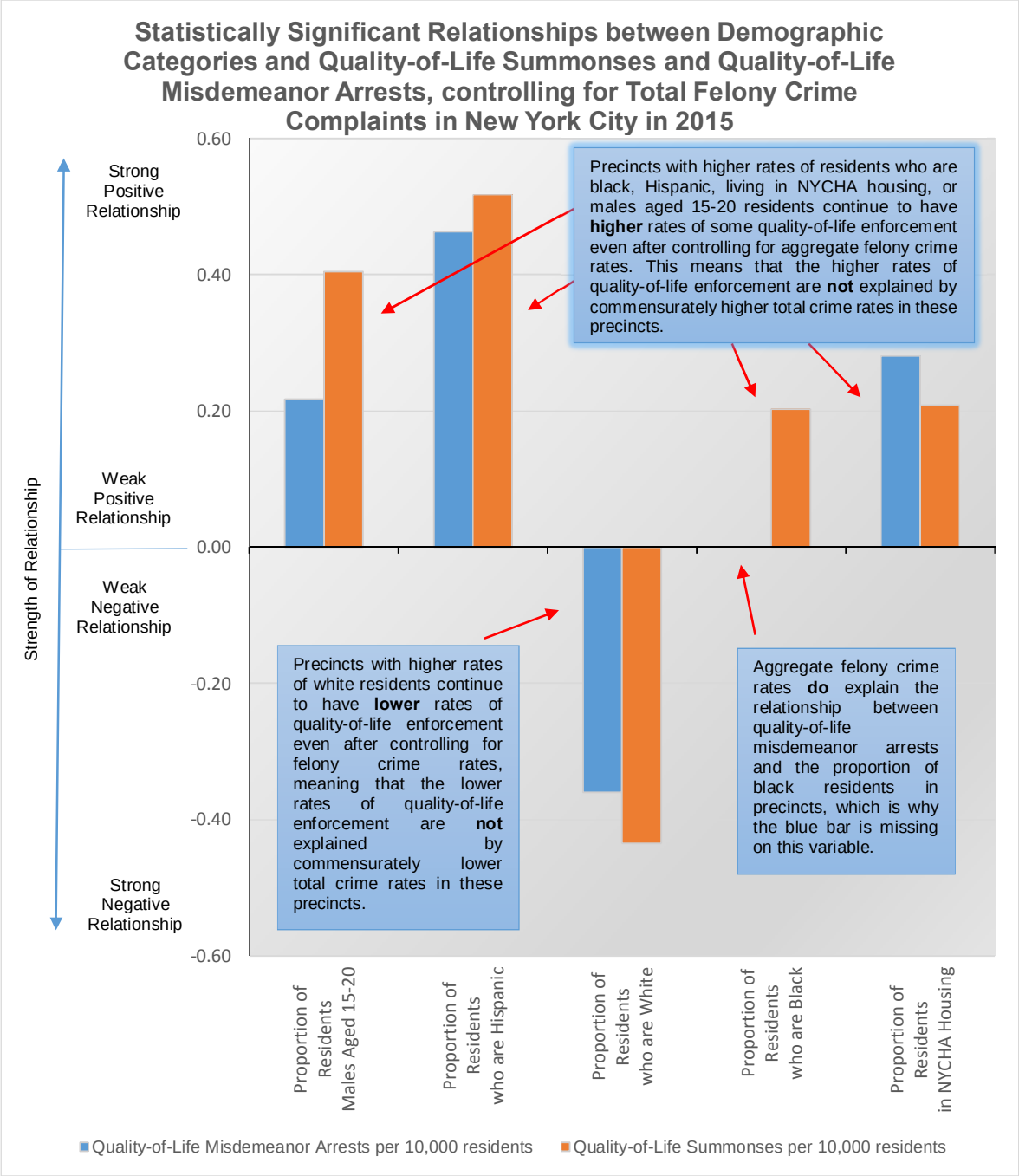


FIGURE 19

What does this mean?

The lower rates of quality-of-life enforcement in precincts with higher proportions of white residents and the higher rates of some quality-of-life enforcement in precincts with higher proportions of black, Hispanic, NYCHA, or 15-20 year-old male residents is ***not likely due to the rates of aggregated felony crime*** in those precincts. However, the higher rates of misdemeanor arrests in precincts with higher proportions of black residents may be explained by the commensurately higher rates of felony crime in these precincts.

Aggregate felony crime rates do not appear to explain why rates of quality-of-life enforcement are *lower* in precincts with higher rates of white residents and generally *higher* in precincts with higher rates of residents who are black, Hispanic, males aged 15-20, or living in NYCHA developments. Once these relationships were discovered, OIG-NYPD conducted a subsequent round of partial correlational analysis, controlling for either violent crime or property crime instead of *all* felony complaints to examine whether quality-of-life enforcement rates might be explained by different types of crime. The strengths of these relationships are depicted in Figure 20 and Figure 21.

Controlling for property crimes results in similar relationships observed when using aggregate felony crimes as a control variable. Specifically, precincts with higher rates of black and Hispanic residents, males aged 15 to 20, and NYCHA residents continued to have higher rates of quality-of-life enforcement, and precincts with higher rates of white residents continued to have lower rates of quality-of-life enforcement. Property crime rates do not appear to explain precincts' higher or lower rates of quality-of-life summonses and quality-of-life misdemeanors, either.

However, different relationships emerge when controlling for violent crime rates. Higher violent crime rates appear to explain the higher rates of quality-of-life enforcement in precincts with higher rates of residents who are Hispanic or living in NYCHA developments. Further, in precincts with higher rates of white residents, there appear to be higher quality-of-life summons and quality-of-life misdemeanor arrest rates than would be expected given these precincts' generally lower rates of violent crime. Conversely, in precincts with higher rates of residents who are black or males aged 15-20, there appear to be *lower* quality-of-life summons and quality-of-life misdemeanor arrest rates than would be expected given these precincts' generally *higher* rates of violent crime.

It is important to note that these findings do not imply any causal—or even temporal—relationships. It is unclear, for instance, whether NYPD's quality-of-life enforcement in precincts follows spikes in violent crime, or whether spikes in violent crime lead to more quality-of-life enforcement due to increased police attention in these precincts, or neither. In order to shed additional light on patterns of quality-of-life enforcement and felony crime, the temporal relationships among these variables must be examined. OIG-NYPD's next phase of investigation, a trend analysis, explores these relationships in detail.

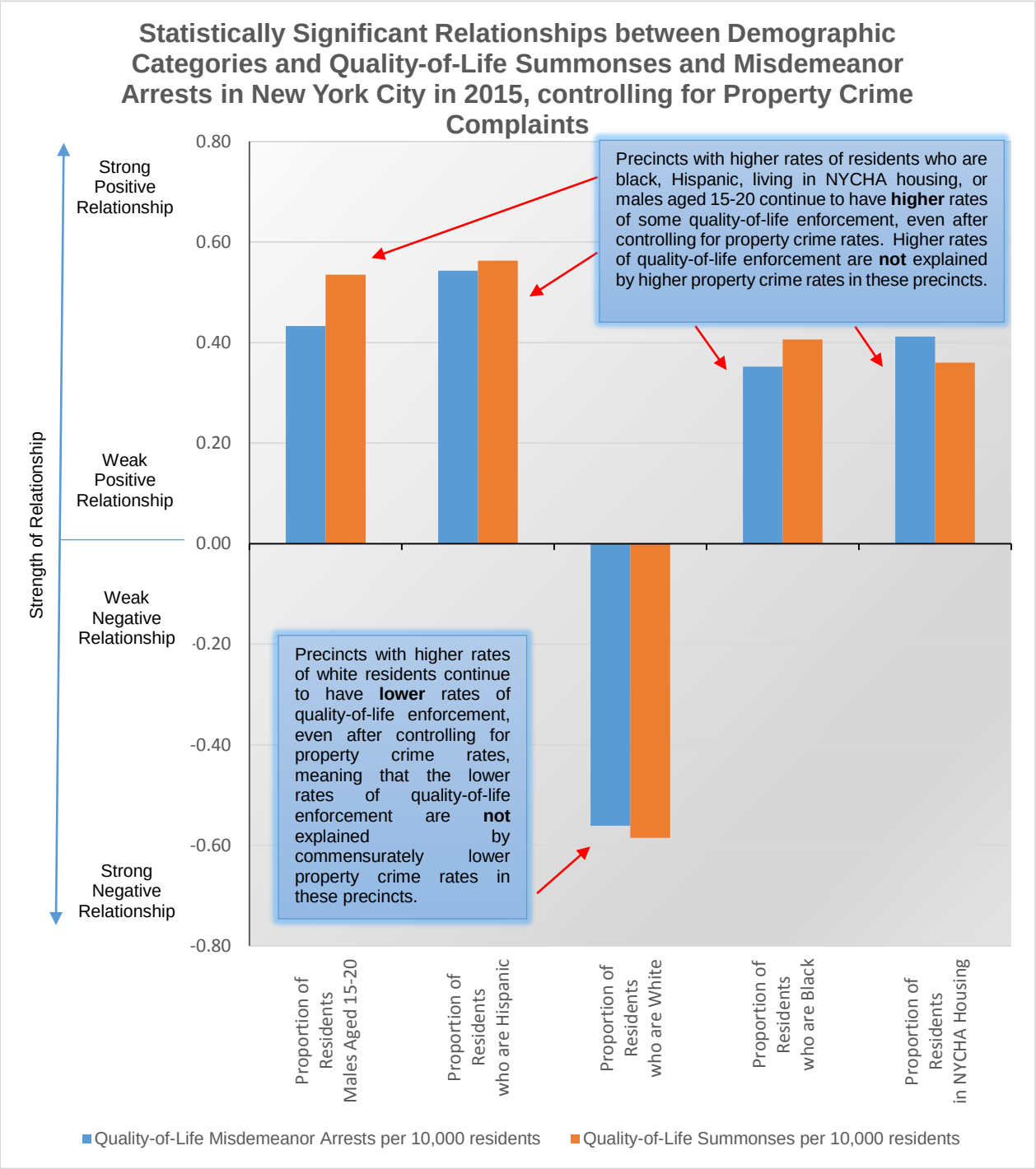


FIGURE 20

What does this mean?
The lower rates of quality-of-life enforcement in precincts with higher proportions of white residents and the higher rates of quality-of-life enforcement in precincts with higher proportions of black, Hispanic, NYCHA, or 15-20 year-old male residents are ***not likely due to the rates of property crime*** in those precincts.

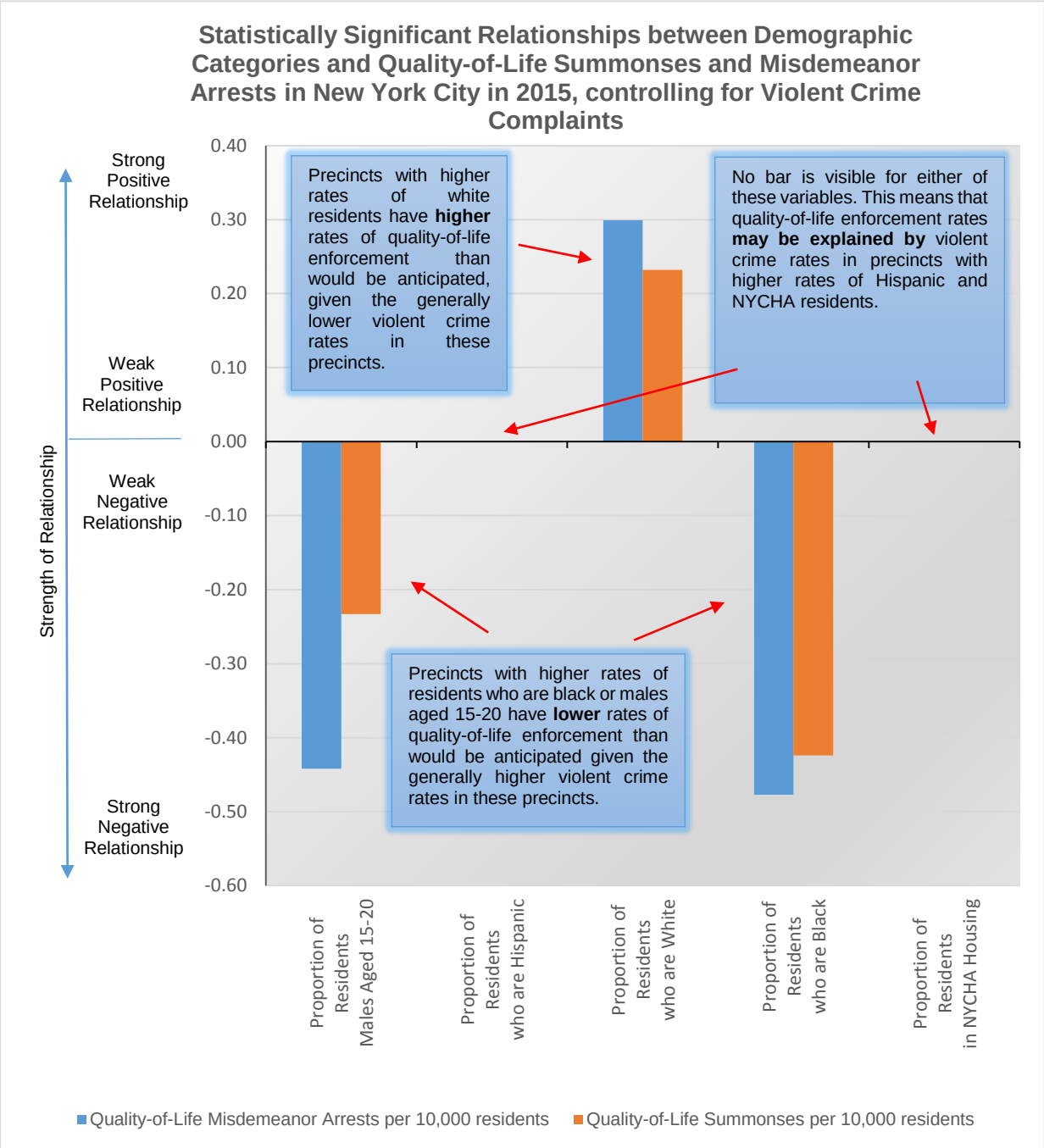


FIGURE 21

What does this mean?

Higher quality-of-life enforcement rates in precincts with higher proportions of residents who are Hispanic or living in NYCHA developments *may be related* ***to violent crime rates*** in those precincts. However, precincts with higher proportions of white residents receive higher rates of quality-of-life enforcement, and precincts with higher proportions of residents who are black or males aged 15-20 receive lower rates of quality-of-life enforcement than would be anticipated given these precincts' violent crime rates.

C. Trend Analysis: Six-Year Trends of Quality-of-Life Enforcement and Crime

Key Findings:

- Between 2010 and 2015, quality-of-life enforcement rates—in particular, quality-of-life summons rates—have dramatically declined, but there has been no commensurate increase in felony crime. While the stagnant or declining felony crime rates observed in this six-year time frame may in part be attributable to NYPD's other disorder reduction strategies, OIG-NYPD finds no evidence to suggest that crime control can be directly attributed to quality-of-life summonses and misdemeanor arrests.
- No evidence was found to support the hypothesis that quality-of-life enforcement has any impact in reducing violent crime. As quality-of-life summonses decreased, violent crime also fell in the vast majority of patrol boroughs.

While examining present-day correlations between quality-of-life enforcement, crime, and demographics across New York City is key to understanding relationships among these variables, this kind of cross-sectional analysis does not reflect how crime rates change over time. To assess whether changes in quality-of-life summons and misdemeanor arrest rates relate to temporal shifts in crime rates, OIG-NYPD conducted a six-year trend analysis.

Examining trends and interactions between quality-of-life enforcement and felony crime rates over time *can* indicate whether changes in quality-of-life summons and misdemeanor arrest rates are followed, temporally, by shifts in crime. For example, it would be less likely that quality-of-life enforcement has an effect on felony crime if a precinct experiences a dramatic increase in summons activity in a particular precinct and major crime does not decrease. Of course, there is no definitive way to tell whether quality-of-life enforcement has a causal impact on crime rates, because many variables interact to make crime more or less likely to occur at particular times and in particular locations, and it is impossible to control for them all.[54]

A trend analysis of categories of quality-of-life summonses in different patrol boroughs allows for better visualization of shifts in policing tactics, and for examination of subsequent shifts in crime rates in those areas as well. In addition, a trend analysis can determine whether overall trends of quality-of-life enforcement are statistically related to felony crime trends.[xi]

The goal of OIG-NYPD's trend analysis was to determine whether there are any empirical trends that indicate that quality-of-life enforcement may have an effect on felony crime.

1. Preparing the Data

For this analysis, OIG-NYPD divided the crime data into monthly segments from January 2010 to December 2015. OIG-NYPD analyzed these data for New York City as a whole and for each of New York City's eight patrol boroughs.[xii] To account for the fact that population changes over time may impact crime rates,[xiii] OIG-NYPD

[54] OIG-NYPD did not examine all potentially confounding variables, including the declining rates of stop, question, and frisk, which has seen a steady and dramatic decline from its peak in 2011.

calculated crime rates based on the annual population estimate for each patrol borough, resulting in a population-adjusted time series.

Crime data are heavily affected by seasonal variation. Generally, more crimes occur in the summer months, and fewer in the winter months.[55] Because of this variation, OIG-NYPD applied a *Holt-Winters seasonal adjustment statistic* to the crime data.[56] Holt-Winters seasonal adjustments are commonly used to minimize the seasonal "noise" of time series data, reducing variation and making the underlying trends of the data easier to examine.

To determine whether observed trends were statistically significant, OIG-NYPD used a *Mann-Kendall* approach.[xiv] The Mann-Kendall is a test that allows directionality (i.e., increasing or decreasing rates of crime) to be analyzed for statistical significance.[xv] Put simply, Mann-Kendall allowed OIG-NYPD to verify that the direction in which crimes trend over time is not due to random chance. Mann-Kendall also allows for additional adjustment for seasonal crime trends, referred to as a *Mann-Kendall seasonal adjustment*.[xvi] This measure further removes the effects of seasonal variation, allowing clearer trends to emerge.

2. Distribution of Quality-of-Life Summonses in New York City, 2010-2015

In this analysis, OIG-NYPD sought to answer the following question:

How have quality-of-life summonses changed between 2010 and 2015 across patrol boroughs?

OIG-NYPD first determined whether enforcement of quality-of-life summons categories differed among patrol boroughs from January 2010 to December 2015. OIG-NYPD then examined quality-of-life summons data for any discontinuity which could indicate decisions made by NYPD to increase or decrease enforcement of particular quality-of-life offenses at particular times.[xvii] To do so, OIG-NYPD plotted monthly data for each of five selected quality-of-life summons categories (Public Urination, Possession of Marijuana, Disorderly Conduct, Open Container, and Bicycles on Sidewalks) on a timeline, and visually examined these plots for points of discontinuity in trendlines.[xviii]

[55] *See*, U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, SPECIAL REPORT: SEASONAL PATTERNS IN CRIMINAL VICTIMIZATION TRENDS 3 (2014), *available at* http://www.bjs.gov/content/pub/pdf/spcvt.pdf.
[56] *See* National Institute of Standards and Technology, U.S. Department of Commerce, "Engineering Statistics Handbook: Triple Exponential Smoothing," http://itl.nist.gov/div898/handbook/pmc/section4/pmc435.htm.

Key Findings:

- Six-year trends of quality-of-life summons categories varied across patrol boroughs.

The rate of quality-of-life summonses generally decreased between January 2010 and December 2015.[xix]

Rates of summonses for Urinating in Public,[57] Disorderly Conduct, Open Container, and Bicycles on the Sidewalk all experienced statistically significant decreases until 2015, when patterns began to shift across the patrol boroughs.[xx]

Possession of Marijuana increased across the city until early 2015. These shifts were hardly continuous, however.

Open Container summonses in all patrol boroughs were issued at an extremely high rate during the summer of 2010, followed by steady decreases in the subsequent months. Across patrol boroughs, the peak rates (during the period of May through July of 2010) ranged from 9.1 per 10,000 residents in Staten Island to 50.9 per 10,000 residents in Brooklyn North, with the remaining boroughs and New York City as a whole averaging a peak rate of approximately 24 per 10,000 residents. However, in 2015, the downward trend ceased and the Open Containers summons rate increased markedly across all of the boroughs, notably in Manhattan South and citywide.

Disorderly Conduct rates experienced a similar spike in the summer of 2011 across all patrol boroughs, followed by a dramatic decline. The peak rates for these summonses (in May and June of 2011) ranged from 8.5 per 10,000 in Staten Island to 42.6 per 10,000 in Brooklyn North, with an average of 22.5 per 10,000 for the remaining patrol boroughs and New York City as a whole.

Rates of summonses for Bicycle on the Sidewalk were generally steady until the beginning of 2014, when all patrol boroughs and New York City as a whole experienced precipitous drops. However, small elevations in the summons rate were observed in early 2015 in a number of patrol boroughs, including Brooklyn South and Queens North.

Rates of Public Urination summonses experienced an abrupt and sustained decline in December 2011 in the patrol boroughs of Queens North, Manhattan South, Manhattan North, and Brooklyn North, and in New York City as a whole. In Queens South, Brooklyn South, and the Bronx, rates declined less dramatically, but more steadily. In Staten Island, summonses for Public Urination experienced a sustained *increase* beginning in December 2011, a trend which continued until February 2015. Rises were notable across many of the other patrol boroughs throughout the remaining months of that year.

Possession of Marijuana experienced a dramatic and sustained (yet heavily seasonal) increase until 2015, when it diminished citywide. Possession of Marijuana summonses abruptly increased in November and December of 2011 across

[57] Urinating in Public summonses significantly decreased in every patrol borough, except for Staten Island, between 2010 and 2014. In Staten Island, the rate of Public Urination summonses increased during this same period.

all patrol boroughs and New York City. This increase may be explained by an internal order given by then-Commissioner Raymond Kelly in September 2011 requiring police to cease arresting people for small amounts of marijuana possession, provided the marijuana was not in plain view.[58] For at least a period of three years, NYPD shifted to a tactic of issuing summonses rather than arresting those who possessed small amounts of marijuana.

The maps that follow the timeline graphs depict percent change between 2010 annualized rates and the 2015 annualized rates for the five quality-of-life summons categories.

Of the five quality-of-life summons categories examined:

- Open Container made up the majority of summonses issued in both 2010 and 2015 (50% in 2010 to 69% in 2015); however, the overall number of Open Container summonses issued decreased with each passing year.
- Public Urination was the second most issued summons in 2015.
- Disorderly Conduct was the second most commonly issued summons in 2010.
- The rate of Possession of Marijuana summonses remained steady citywide and in the patrol boroughs until January 2012, when it began to rise significantly. That shift lasted until December 2012, after which the rate steadily declined through 2015. In 2014, NYPD decriminalized possession of marijuana in quantities below 25 grams, which likely further contributed to the decline observed.
- Bicycle on Sidewalk summonses decreased in 2015, as compared to 2010 (9% in 2010 to 3% in 2015).

The total number of quality-of-life summonses issued in 2015 decreased overall, compared to 2010 (386,094 in 2010 versus 258,008 in 2015). The following maps illustrate the percentage change of summons activity by category on a precinct level.[59] The shifts depicted in these maps correspond with citywide changes in summonses administered.

Sixty-seven precincts saw a decrease in Open Container summonses in 2015 compared to 2010. The highest percentage increase in Open Container summonses was found in the 66th Precinct, which had an 84.9% increase in summons activity over the six-year period. The 108th Precinct had the sharpest decline, with a 75.7% decrease in Open Container summonses over the six-year period.[60]

No precincts experienced an increase in Disorderly Conduct summons activity when comparing 2010 and 2015 rates. The 77th, 76th, 24th, 42nd, and 50th Precincts all had a 99% decrease in Disorderly Conduct summons activity. The 6th Precinct saw the

[58] NYPD, Operations Order No. 49, Charging Standards for Possession of Marihuana in a Public Place Open to Public View, (Sept. 19, 2011) *available at* http://www.nyc.gov/html/om/pdf/2012/nypd-marijuana-order.pdf.
[59] These percentages compare annualized rates of certain quality-of-life summonses in 2010 to annualized rates in 2015.
[60] For all summons categories, OIG-NYPD could not calculate the percentage change for the 121st Precinct for 2010 to 2015 because it was created in 2013. Previously, that area was under the jurisdiction of the 120th Precinct (all enforcement activity occurring in the 121st Precinct in 2010 appeared in the 120th Precinct's rates). This change makes it appear that the 120th Precinct had substantially higher rates of summons activity in 2010.

lowest decline in Disorderly Conduct summons, with a 71.3% decrease in that category.

Eighteen precincts saw an increase in Public Urination summonses in 2015 compared to 2010. The 34th Precinct had a 61.0% increase in Public Urination summonses issued, followed by the 70th Precinct at 55.9%. The 19th Precinct had an 86% decline in Public Urination summonses in 2015, compared to 2010.

The most dramatic change in summons activity between 2010 and 2015 was in the issuance of Possession of Marijuana summonses. Sixty-six precincts experienced an increase in summons activity for this category; 41 out of the 75 precincts examined saw Possession of Marijuana summonses rise over 100%. The largest change occurred in the 115th Precinct, which had a 1,387% increase in Possession of Marijuana summonses in 2015 compared to 2010, followed by the 66th Precinct with a 1,288% increase. The 19th Precinct had the largest drop in issuances in the category, with a 66.2% decrease in summonses.

No precinct had a rise in Bicycle on Sidewalk summons activity when comparing 2010 and 2015 rates. The 111th Precinct experienced no change in summonses activity. The 101st, 123rd, 100th, 1st, and 102nd Precincts all saw a 100% decrease in Bicycle on Sidewalk summonses.

WHY ARE THERE TWO VERTICAL AXES ON THESE TIMELINE GRAPHS?

When the rate of one variable is much higher than another, putting the rates on the same timeline graph can obscure how the rate changed over time. For this example, the number of quality-of-life summonses per 10,000 residents is much greater than the number of violent felony complaints per 10,000 residents, which flattens out the movement in the violent complaint line, making it hard to tell how the rate changed in a given month.

To solve this problem, OIG-NYPD put the lower-rate variable (here, the rate of violent felony complaints) on a right-side axis. This allowed OIG-NYPD to zoom in on the rate of violent felony complaints and compare how the two rates moved over time.

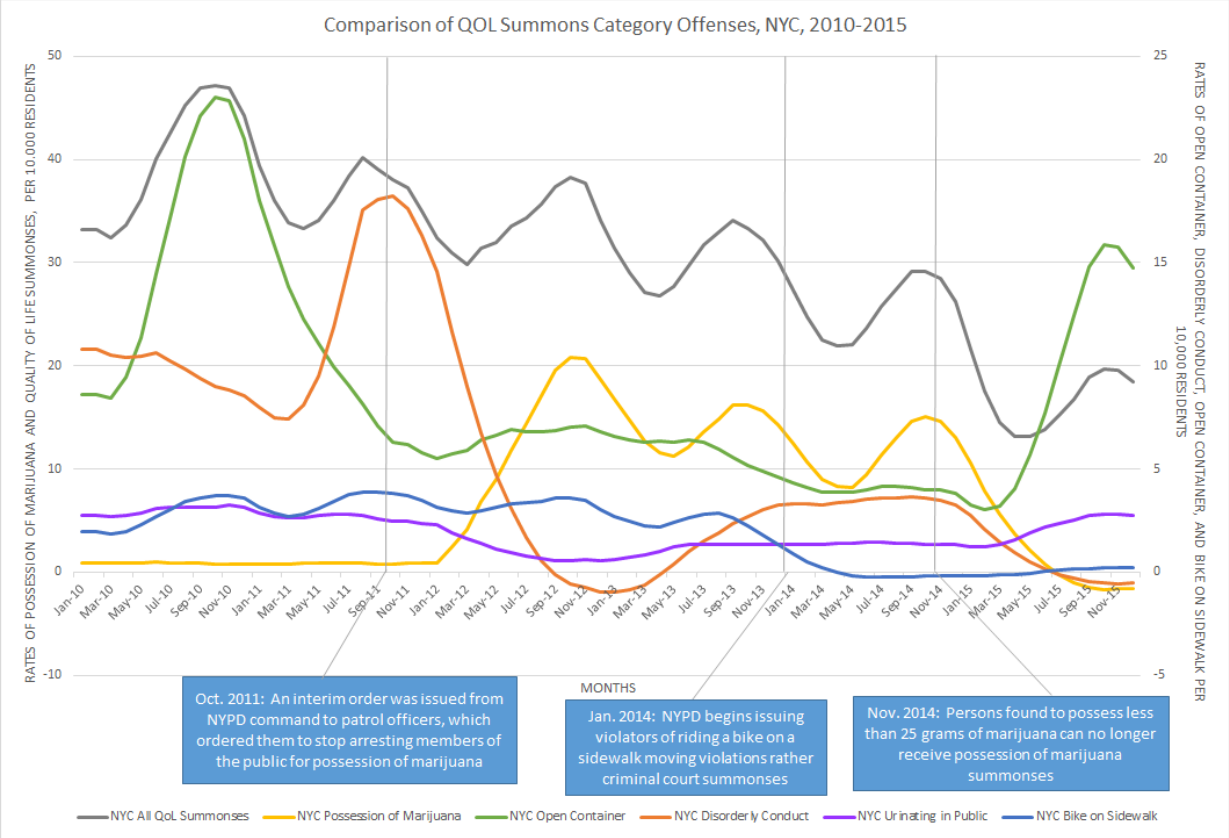


FIGURE 22

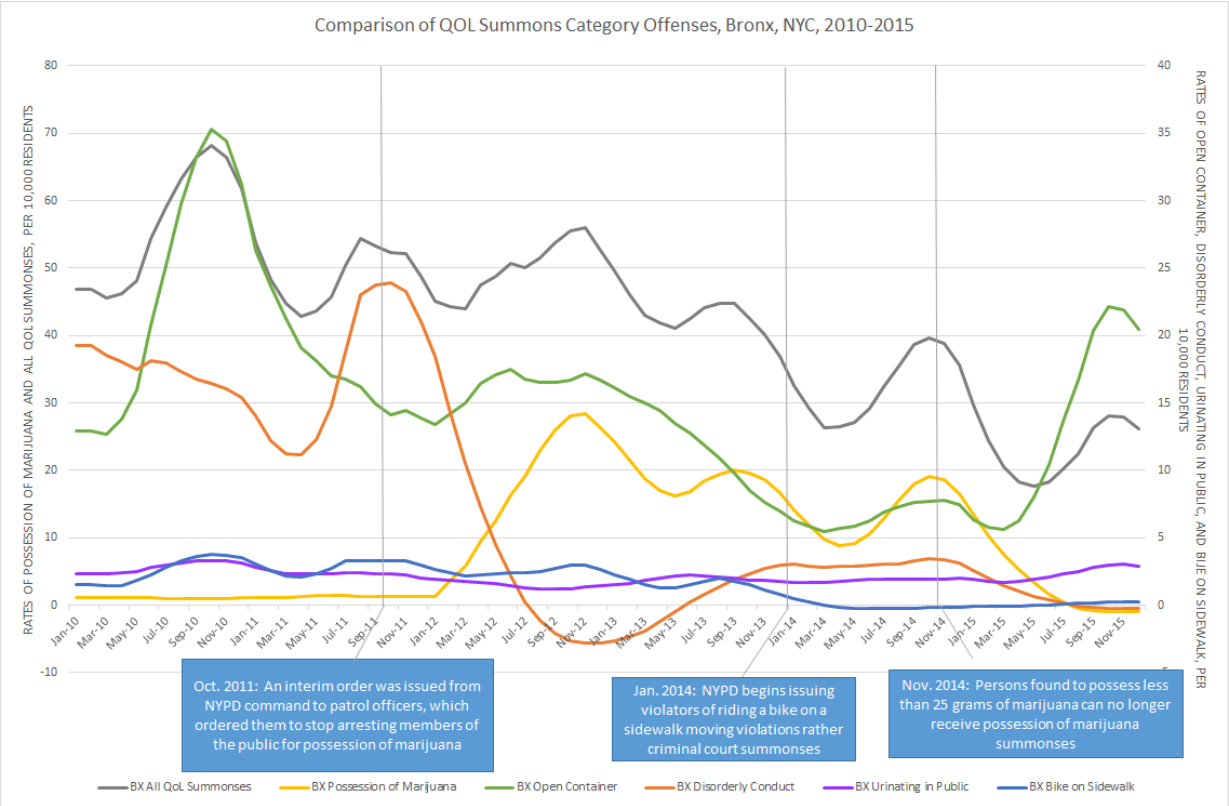


FIGURE 23

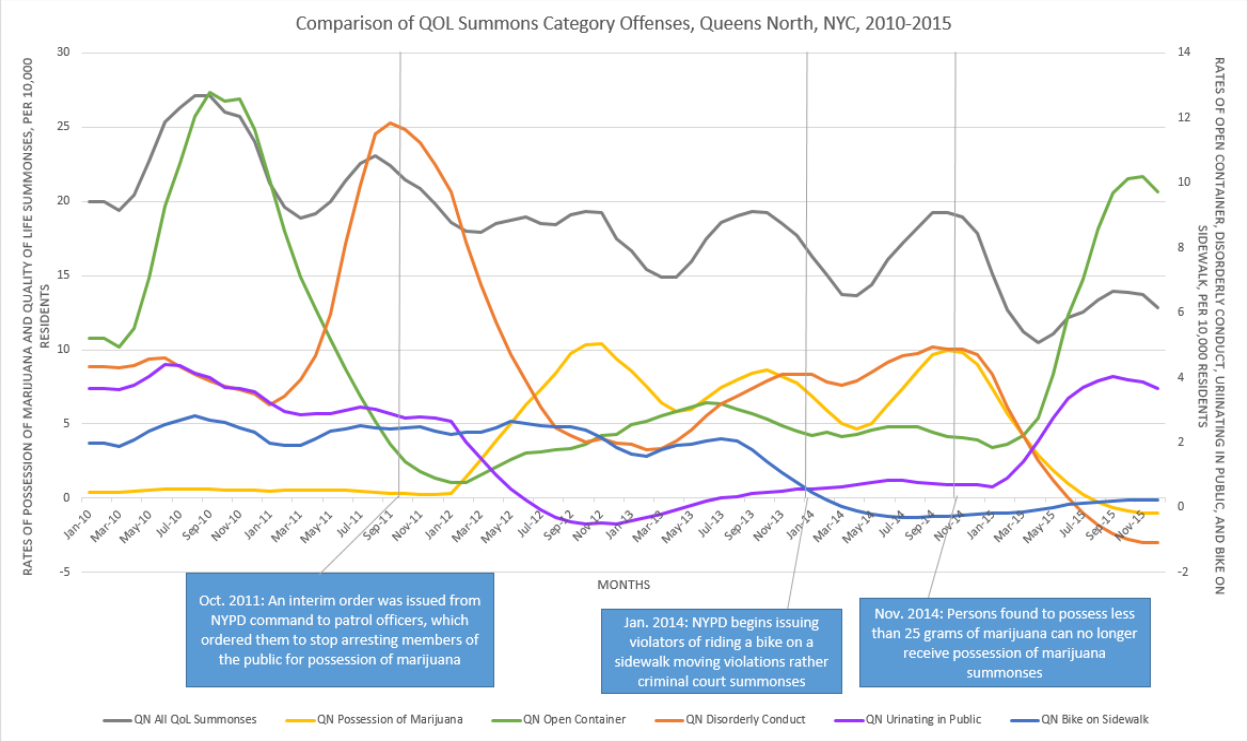


FIGURE 24

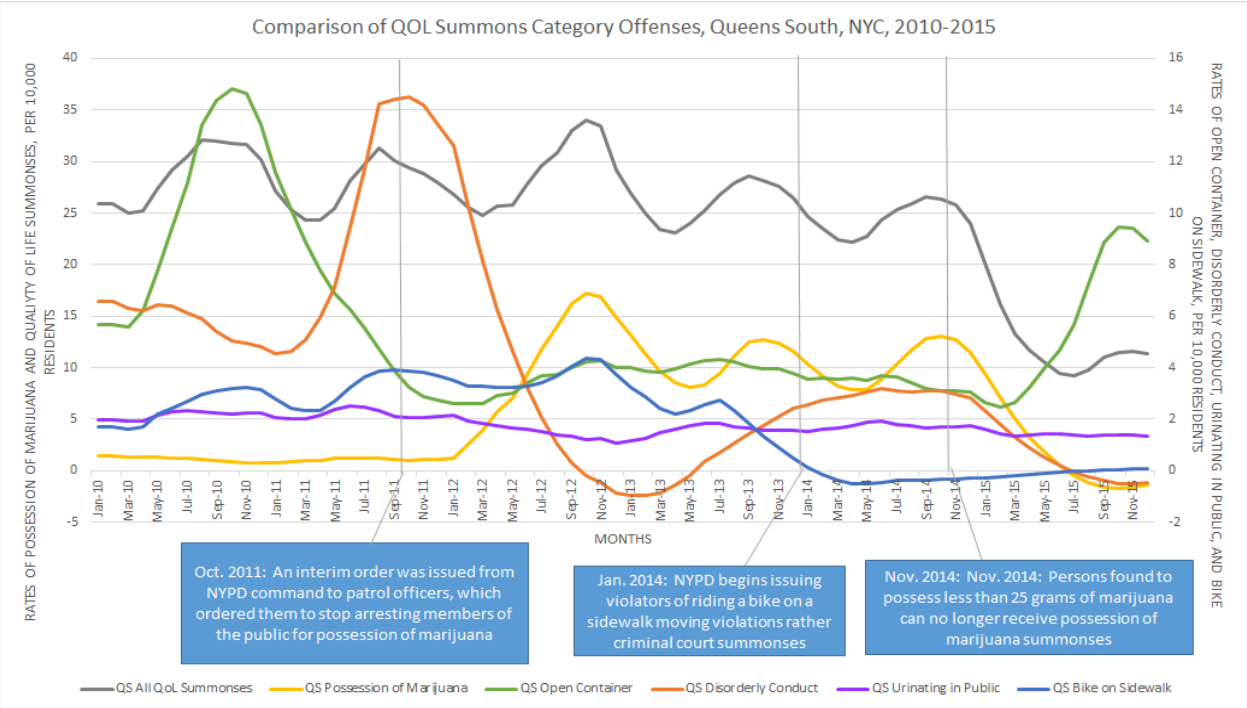


FIGURE 25

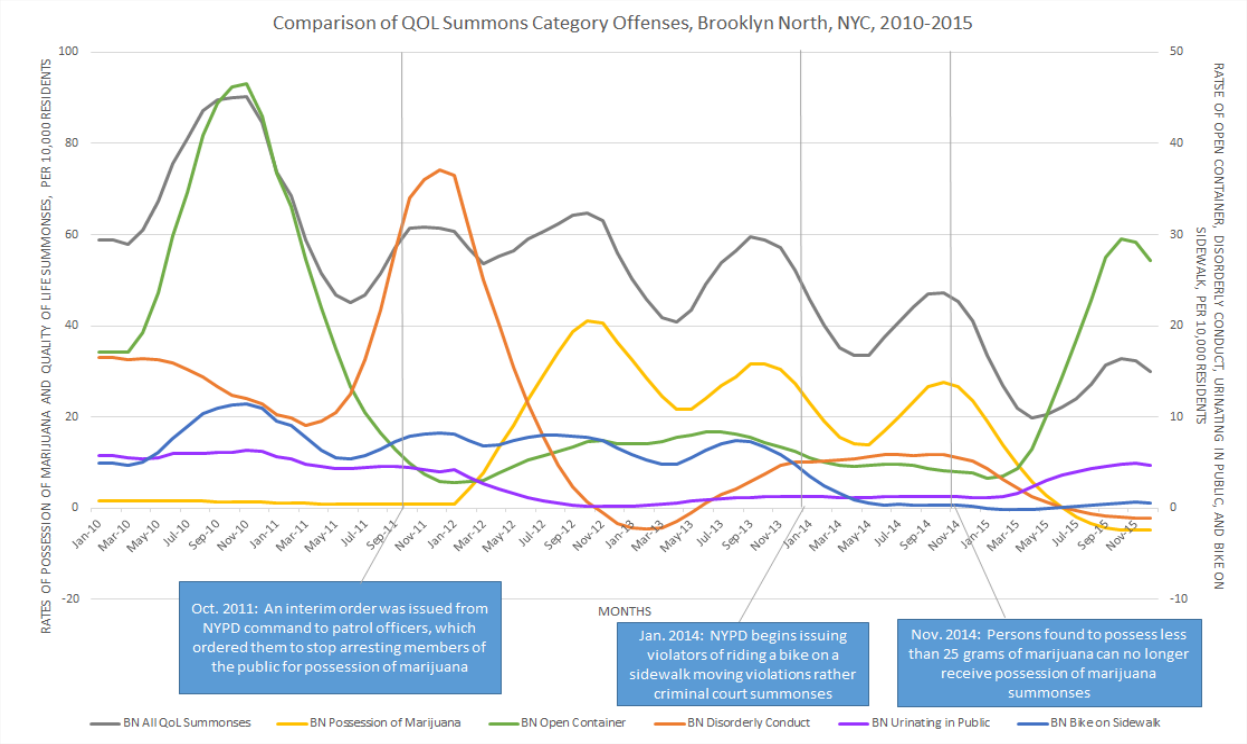


FIGURE 26

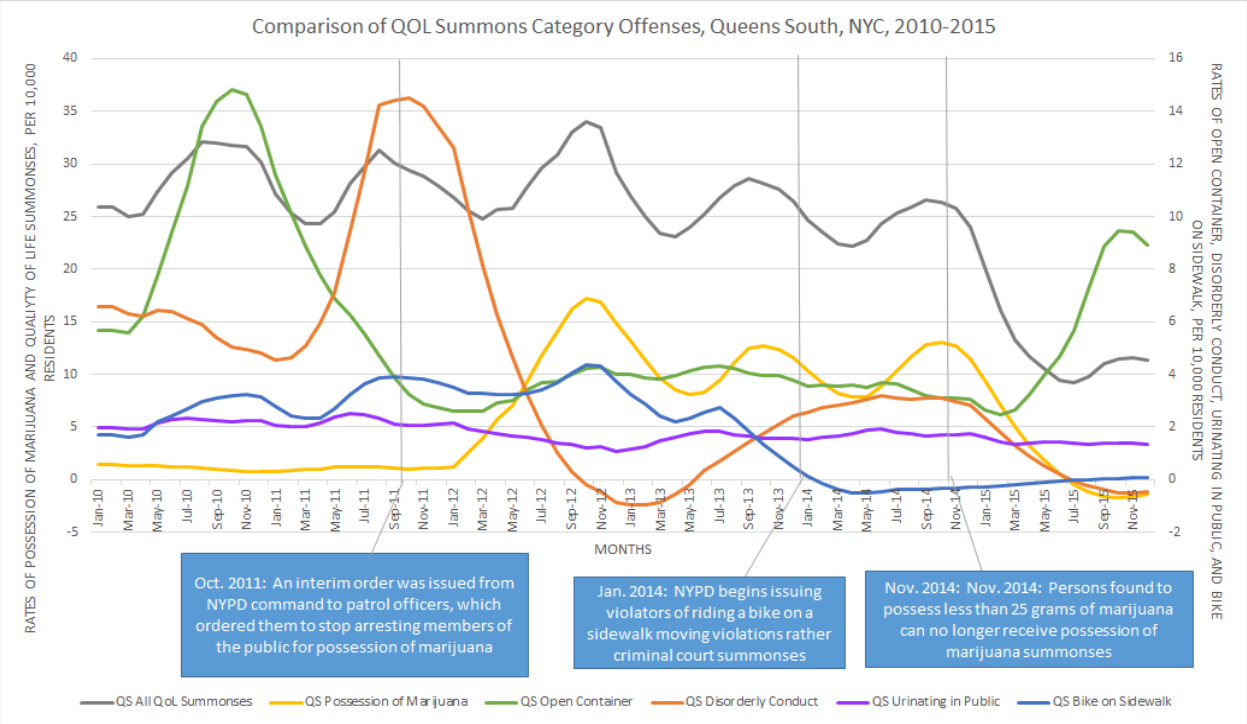


FIGURE 27

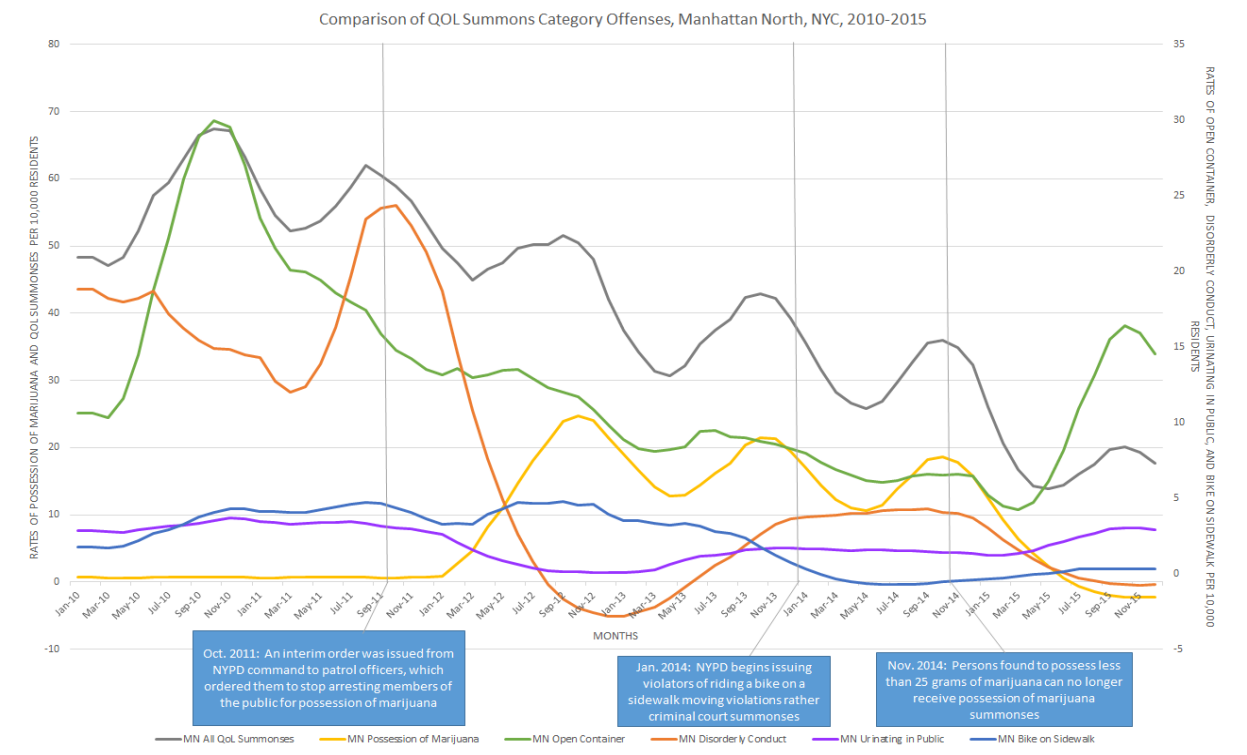


FIGURE 28

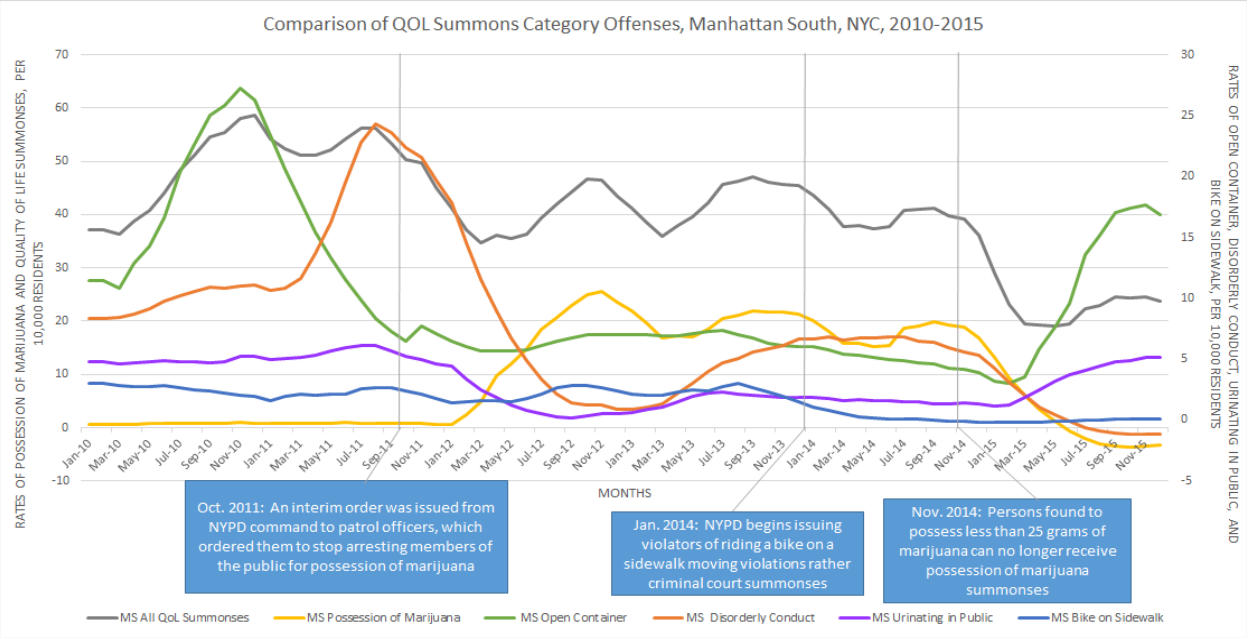


FIGURE 29

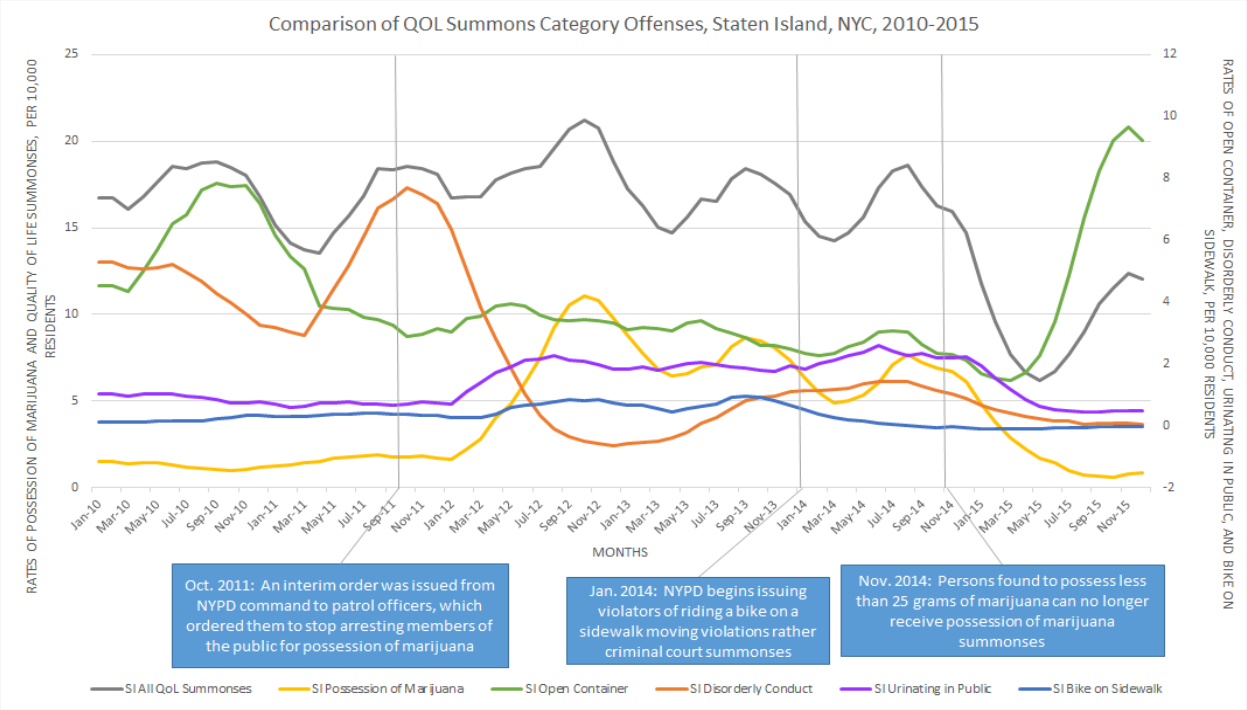

Comparison of QOL Summons Category Offenses, Staten Island, NYC, 2010-2015
RATES OF POSSESSION OF MARIJUANA AND QUALITY OF LIFE SUMMONSES, PER 10,000 RESIDENTS
RATES OF OPEN CONTAINER, DISORDERLY CONDUCT, URINATING IN PUBLIC, AND BIKE ON SIDEWALK, PER 10,000 RESIDENTS
MONTHS
Oct. 2011: An interim order was issued from NYPD command to patrol officers, which ordered them to stop arresting members of the public for possession of marijuana
Jan. 2014: NYPD begins issuing violators of riding a bike on a sidewalk moving violations rather criminal court summonses
Nov. 2014: Persons found to possess less than 25 grams of marijuana can no longer receive possession of marijuana summonses
SI All QoL Summonses
SI Possession of Marijuana
SI Open Container
SI Disorderly Conduct
SI Urinating in Public
SI Bike on Sidewalk

FIGURE 30

Percentage Change in Possession of Marijuana Summonses by Precinct, 2010 and 2015

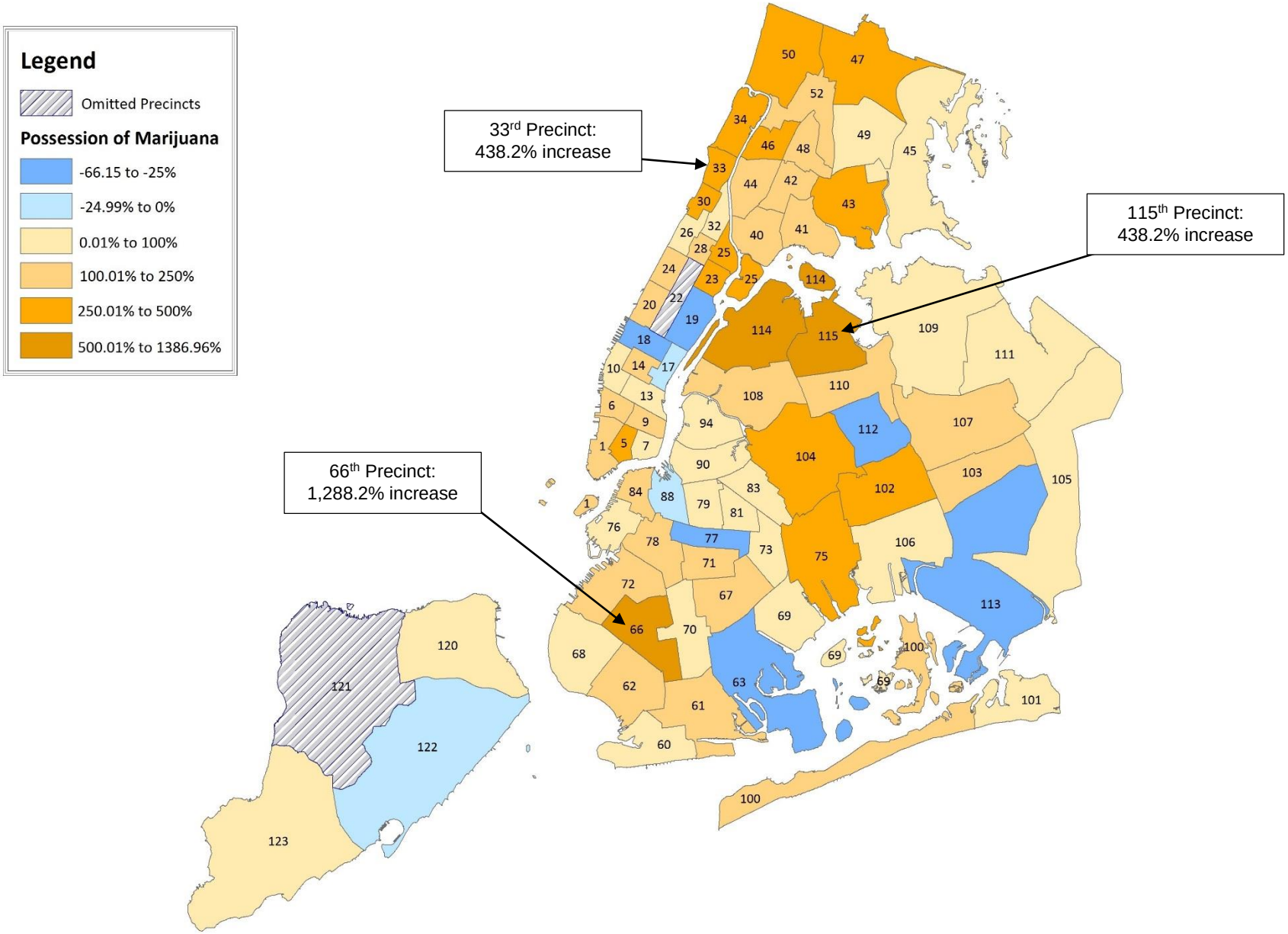


FIGURE 31

Percentage Change in Open Container Summonses by Precinct, 2010 and 2015

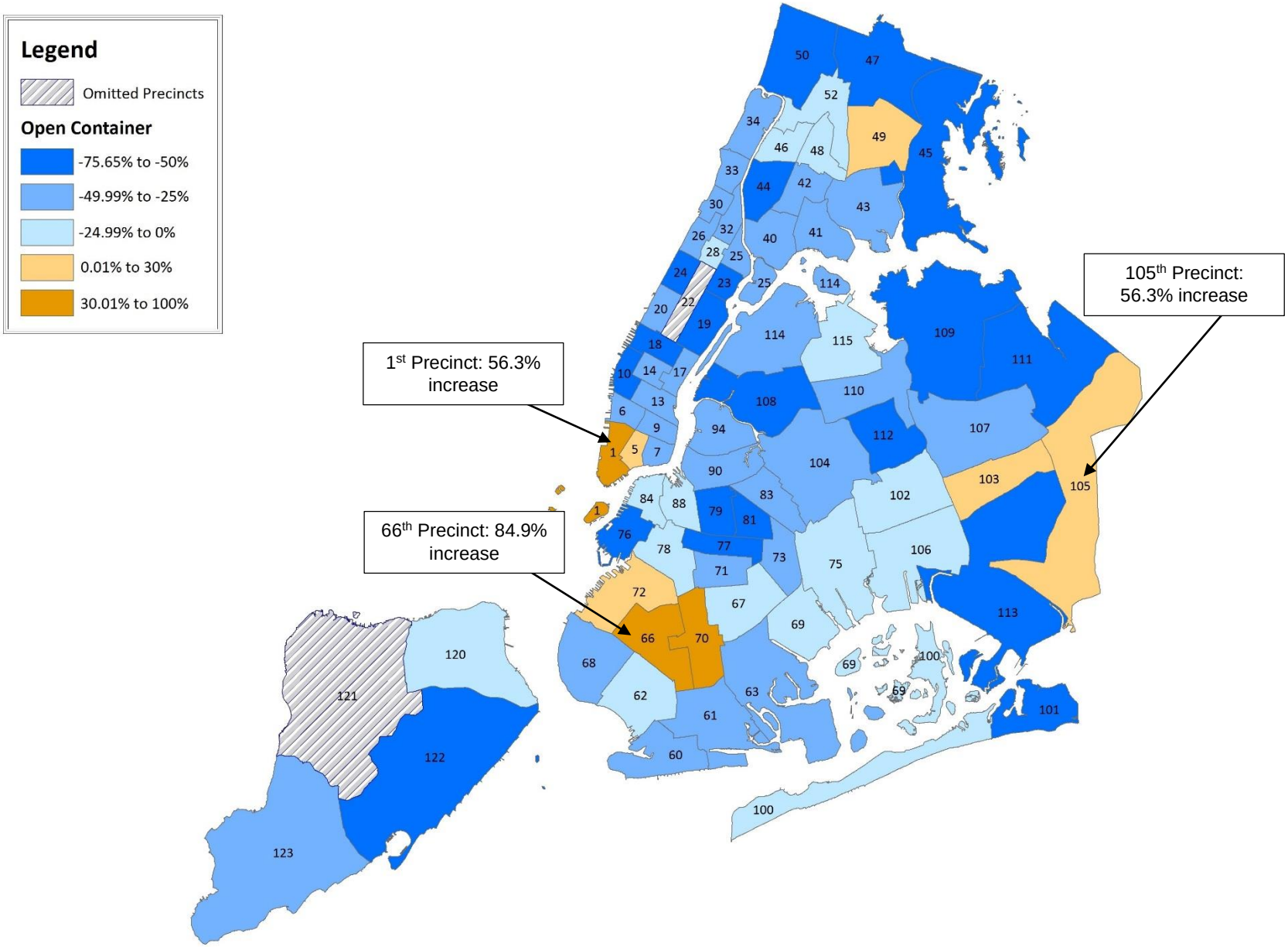


FIGURE 32

Percentage Change in Disorderly Conduct Summonses by Precinct, 2010 and 2015

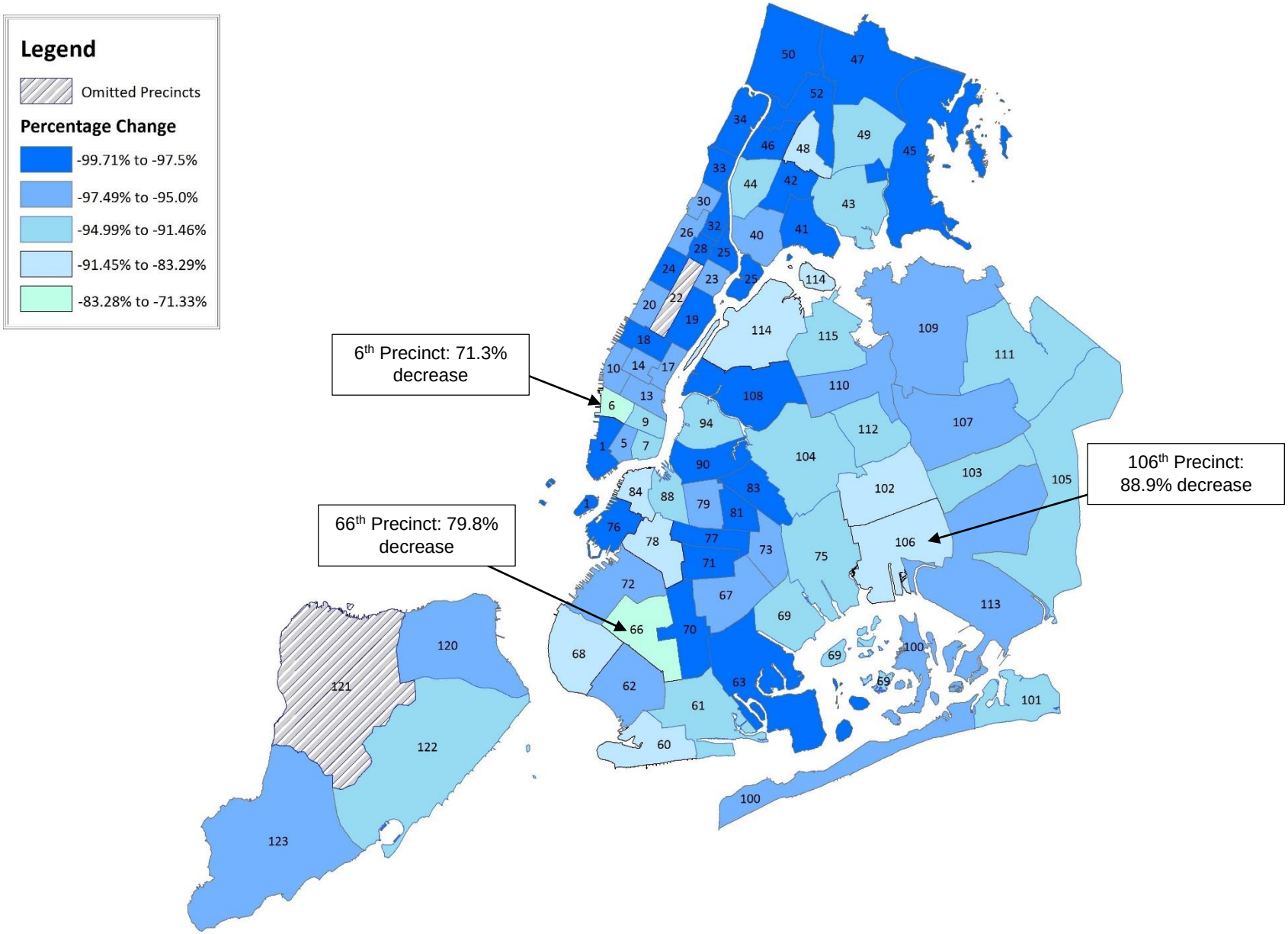


FIGURE 33

Percentage Change in Public Urination Summonses by Precinct, 2010 and 2015

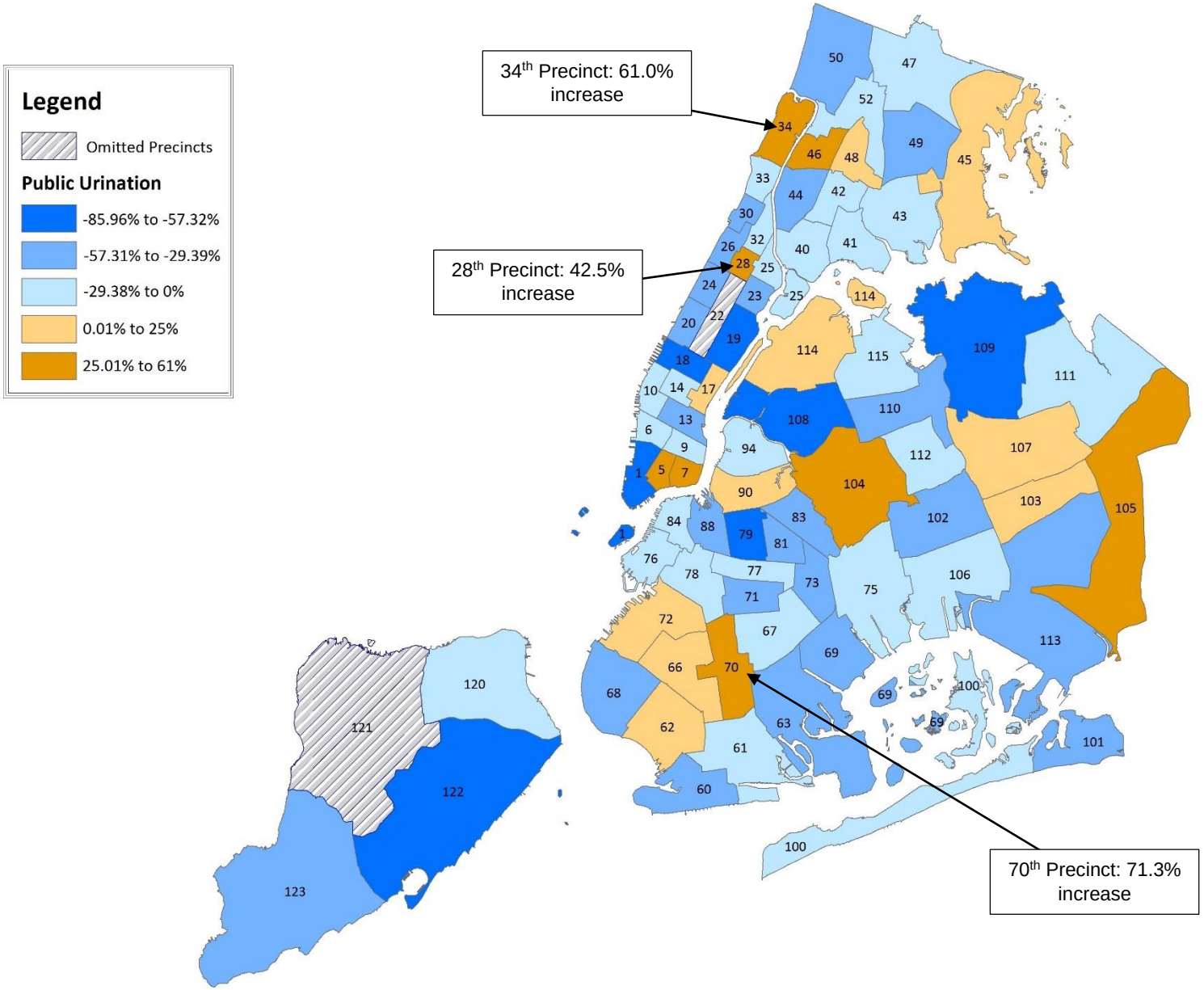


FIGURE 34

Percentage Change in Bicycle on Sidewalk Summonses by Precinct, 2010 and 2015

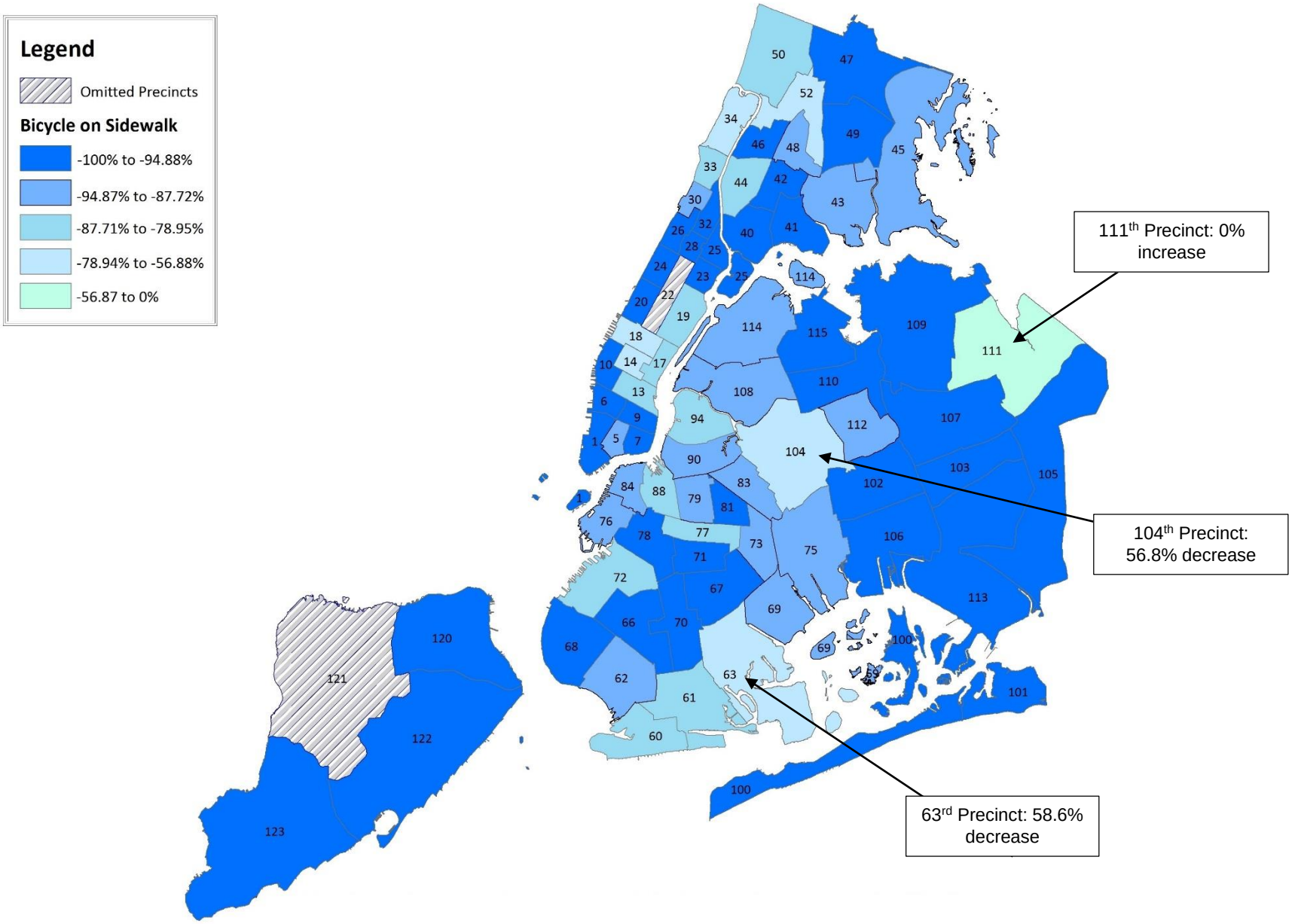


FIGURE 35

3. Correlations between Quality-of-Life Enforcement and Felony Crime in New York City

In this analysis, OIG-NYPD sought to answer the following question:

Are there any statistically significant correlations between quality-of-life enforcement trends and felony crimes over the six-year study period?

OIG-NYPD examined whether any particular shift in quality-of-life enforcement rates accompanied an inverse shift in felony crime. While this analysis cannot confirm that felony crime rates were impacted by changes in quality-of-life enforcement,[xxi] it does allow for a clear portrayal of trends that are related to each other in a statistically significant way. If trends are correlated, there is a greater chance that shifts in issuing quality-of-life summonses may have affected felony crime.

As an initial step in this process, timeline graphs were produced for each patrol borough and New York City as a whole for the following crime variables:

- Quality-of-Life Summonses
- Quality-of-Life Misdemeanor Arrests
- Violent Felonies
- Property Felonies
- Felony Assault
- Felony Robbery
- Felony Burglary
- Felony Grand Larceny

OIG-NYPD first visually examined these timeline graphs for discontinuity, trends, and patterns in the data, examining how crime rates changed alone and in relation to each other. OIG-NYPD then ran a Mann-Kendall statistical trend analysis[xxii] for each trend line for each patrol borough and New York City as a whole, in order to quantify and compare the directionality and magnitude of observed trends and to determine which observed trends were statistically significant.

OIG-NYPD sought to determine whether quality-of-life enforcement and felony crime trends increased or decreased in relation to each other and in a way that was not the result of random chance.

Graphs depicting borough and citywide rates of quality-of-life summonses and misdemeanor arrests and felony complaints appear below.

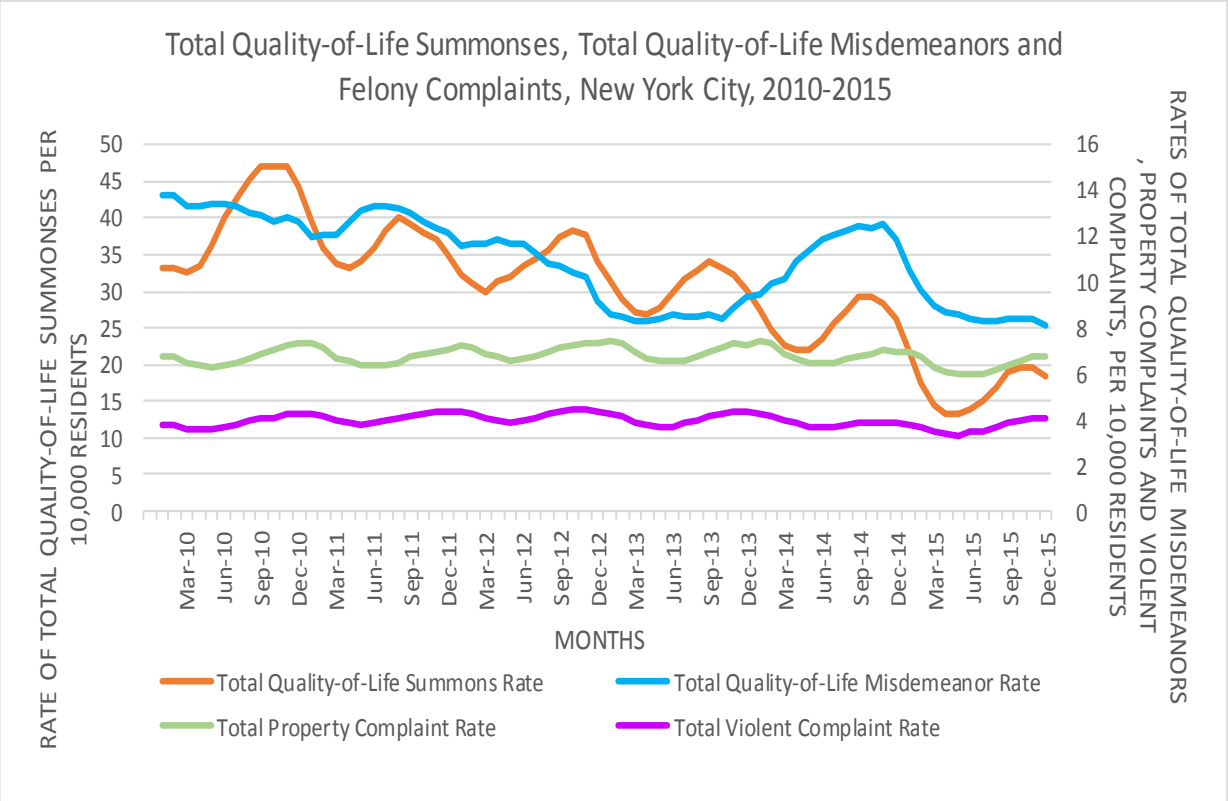


FIGURE 36

The total quality-of-life summons rate in New York City appears to have risen and fallen in a cyclical manner between January 2010 and December 2015, over periods that are evenly spaced. Quality-of-life misdemeanor arrests increased in much of 2014, then fell through 2015. Property complaint rates and total quality-of-life summons rates grew together between August and October 2015, while violent complaints increased. Notably, the property complaint rate increased most significantly in late 2015.

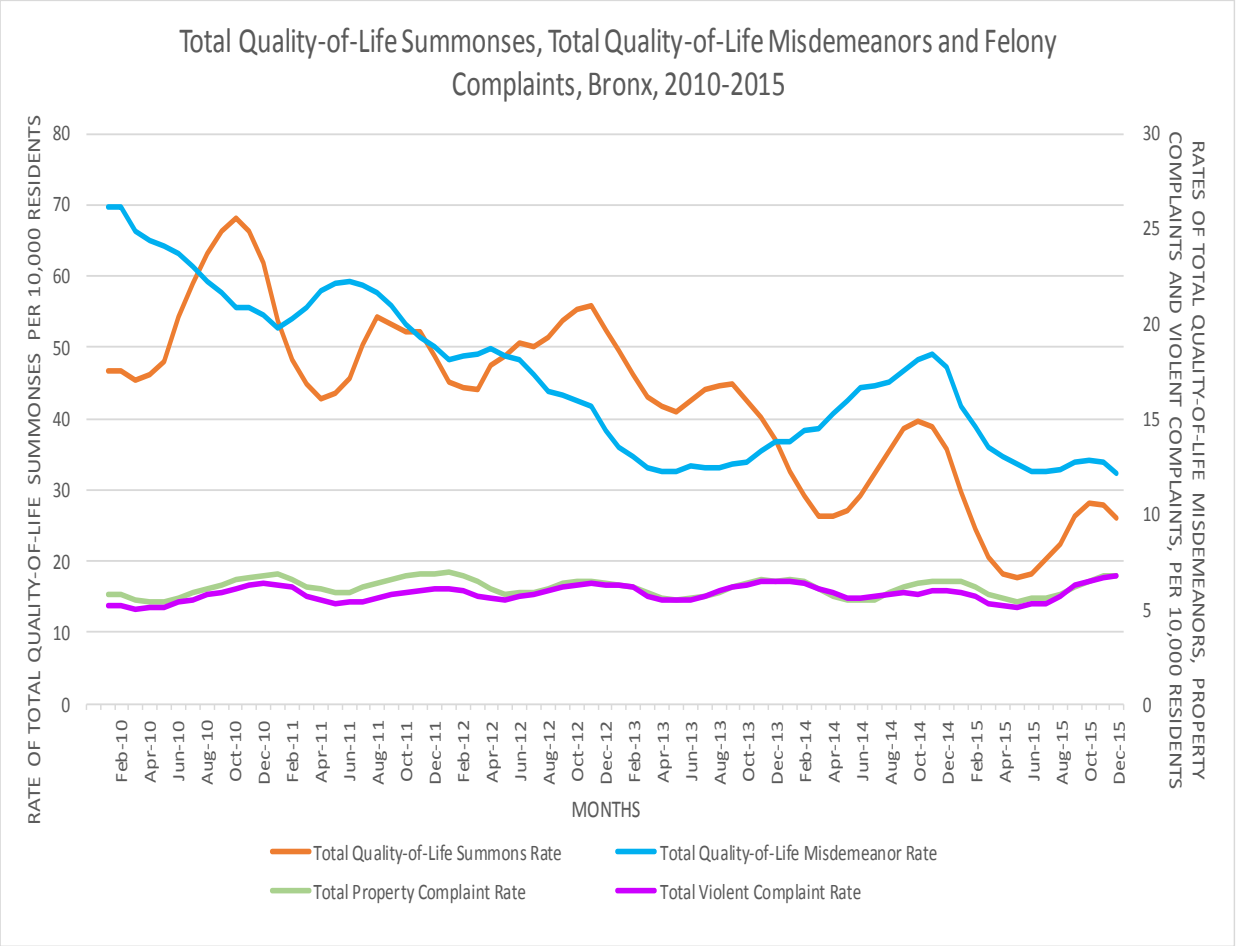


FIGURE 37

In the Bronx, all offense categories were in line with the City overall. However, the decline in the rate of total quality-of-life summonses that was observed in all other patrol boroughs was less pronounced in the Bronx.

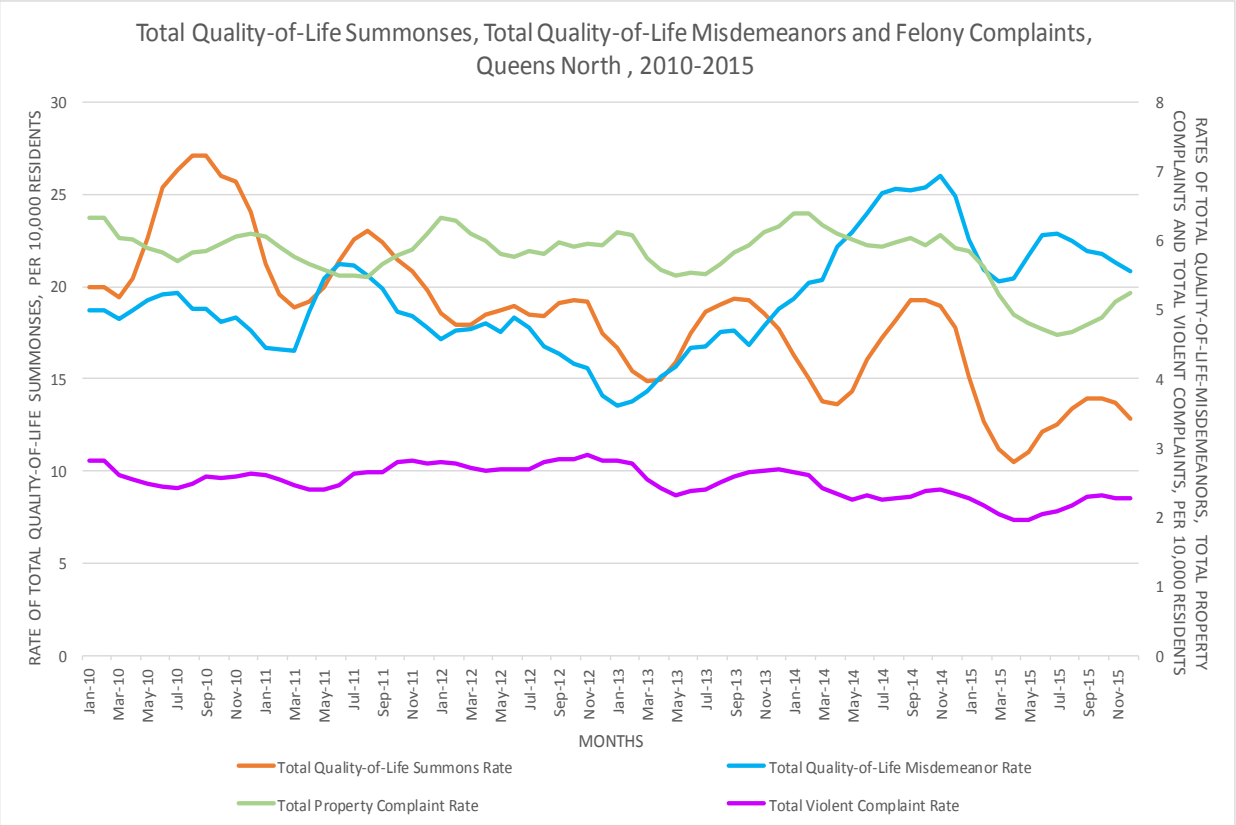


FIGURE 38

For Queens North, total quality-of-life misdemeanor arrest rates experienced much less variability. After falling until January 2013, the rate increased to a peak of just 6.95 per 10,000 residents in November 2014. Quality-of-life summonses diminished to 10.45 per 10,000 residents in April 2015, after which they increased; matching the trend of the City overall. Violent and property complaints held stable.

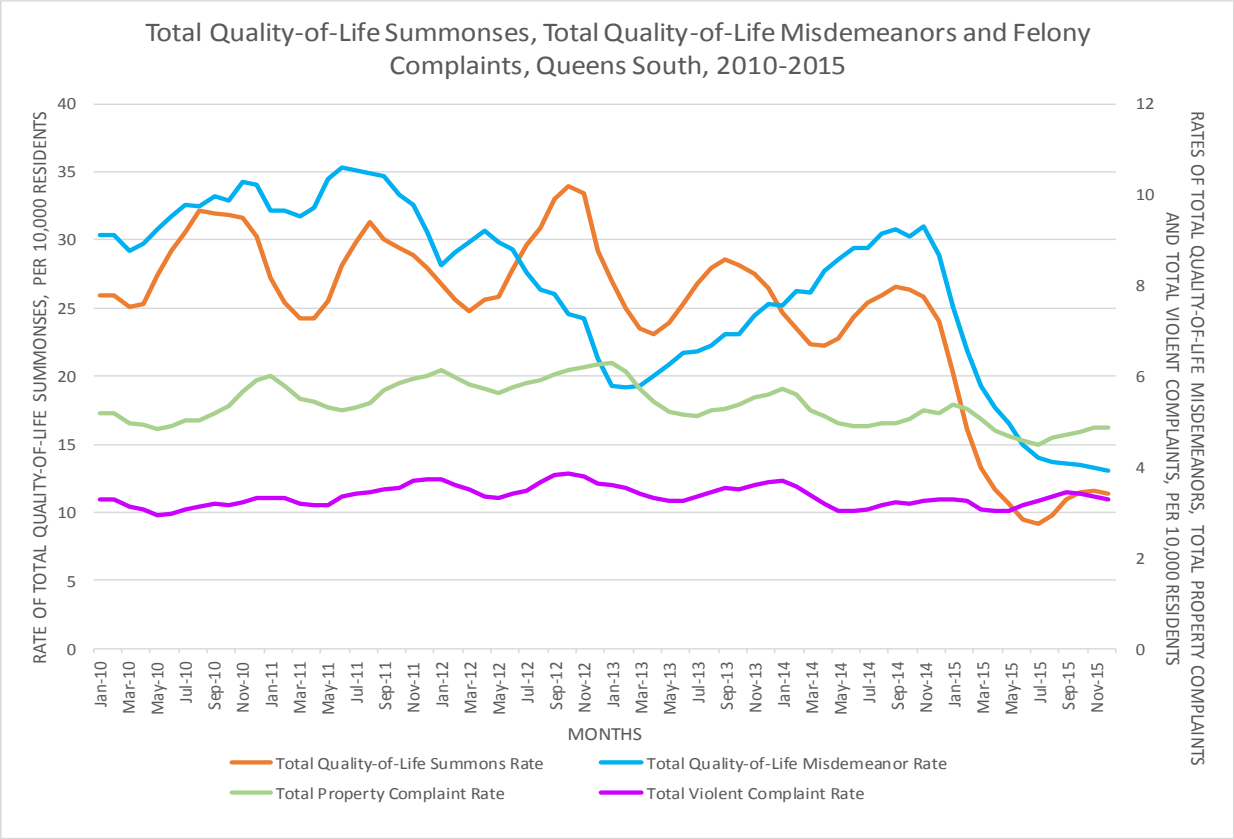


FIGURE 39

In Queens South, the total quality-of-life misdemeanor arrest rate showed significant change from 2010 to 2015. Violent and property complaints remained stable. From November 2014 until July 2015 the summons and misdemeanor levels fell markedly. The total quality-of-life summonses rate began to increase after July 2015.

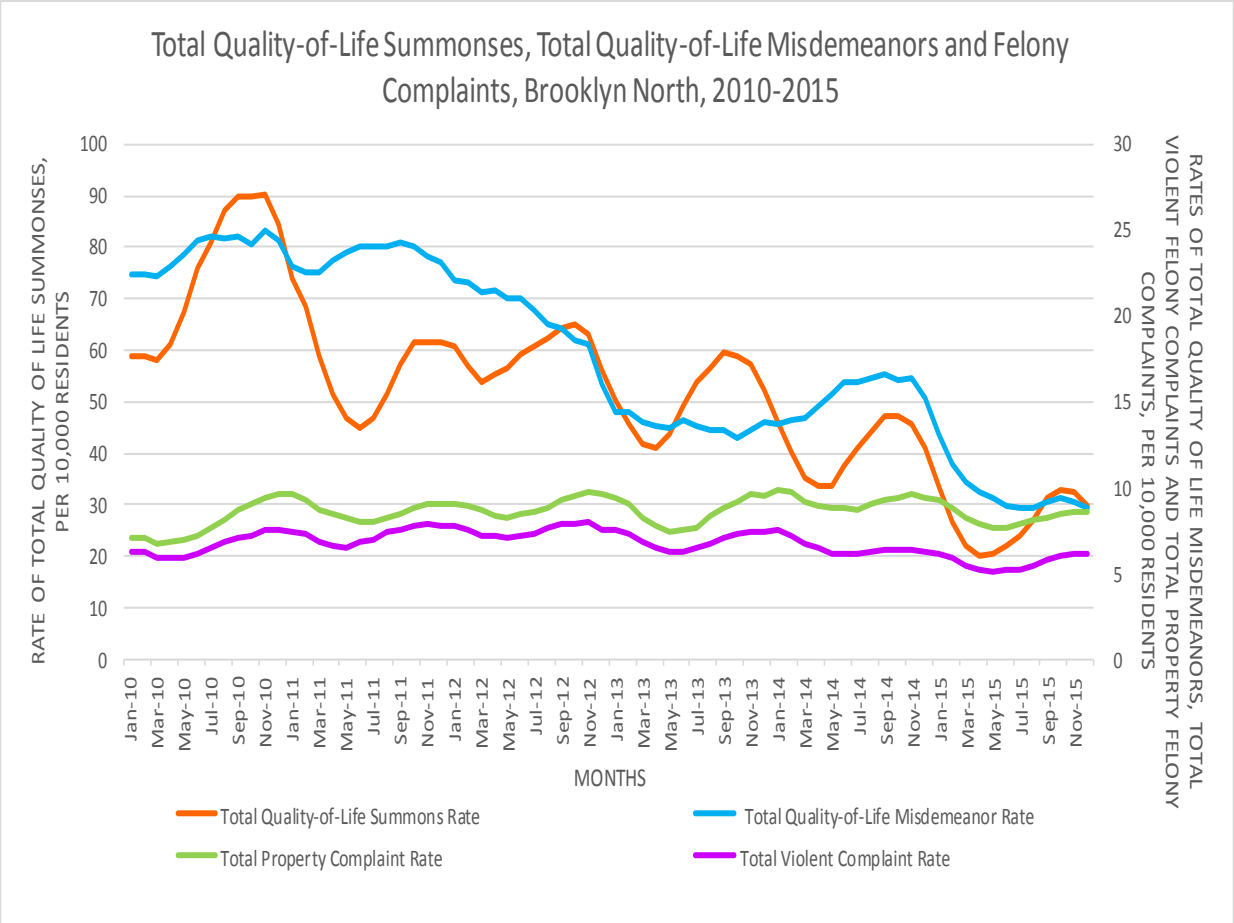


FIGURE 40

Brooklyn North had a property felony complaint rate that was significantly higher than those measured in other areas of the City. As observed elsewhere, the total quality-of-life summons rate fell dramatically from 2010 onward, but rose to a peak of 32.3 summonses issued per 10,000 residents in November 2015. Violent complaints remained stable for much of the period between January 2010 and December 2015.

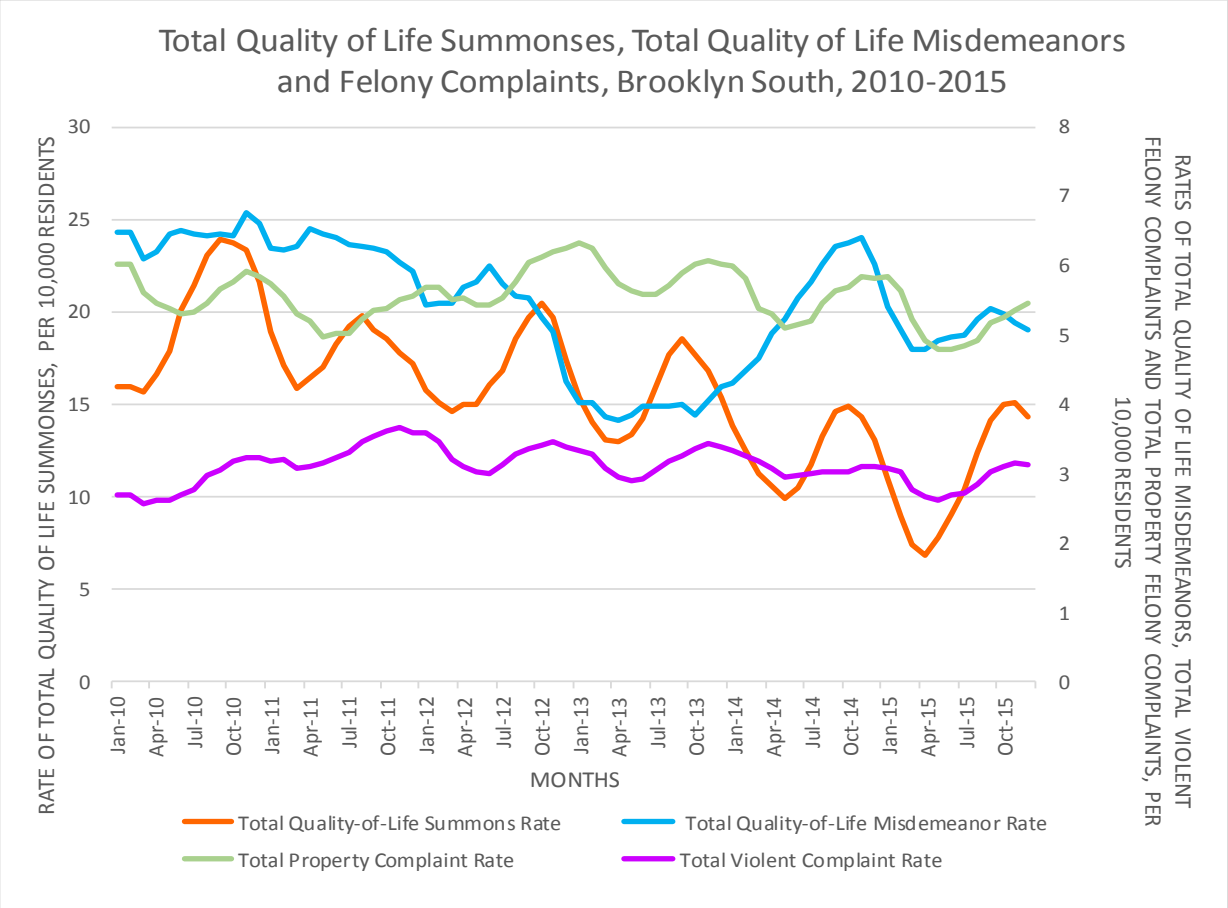


FIGURE 41

In Brooklyn South, the May 2015 quality-of-life summons rate rate measured 7.7 offenses per 10,000 residents. In the next five months, the rate would nearly double, rising to 15 offenses per resident in November. The change in Brooklyn South was one of the greatest shifts in the patrol boroughs.

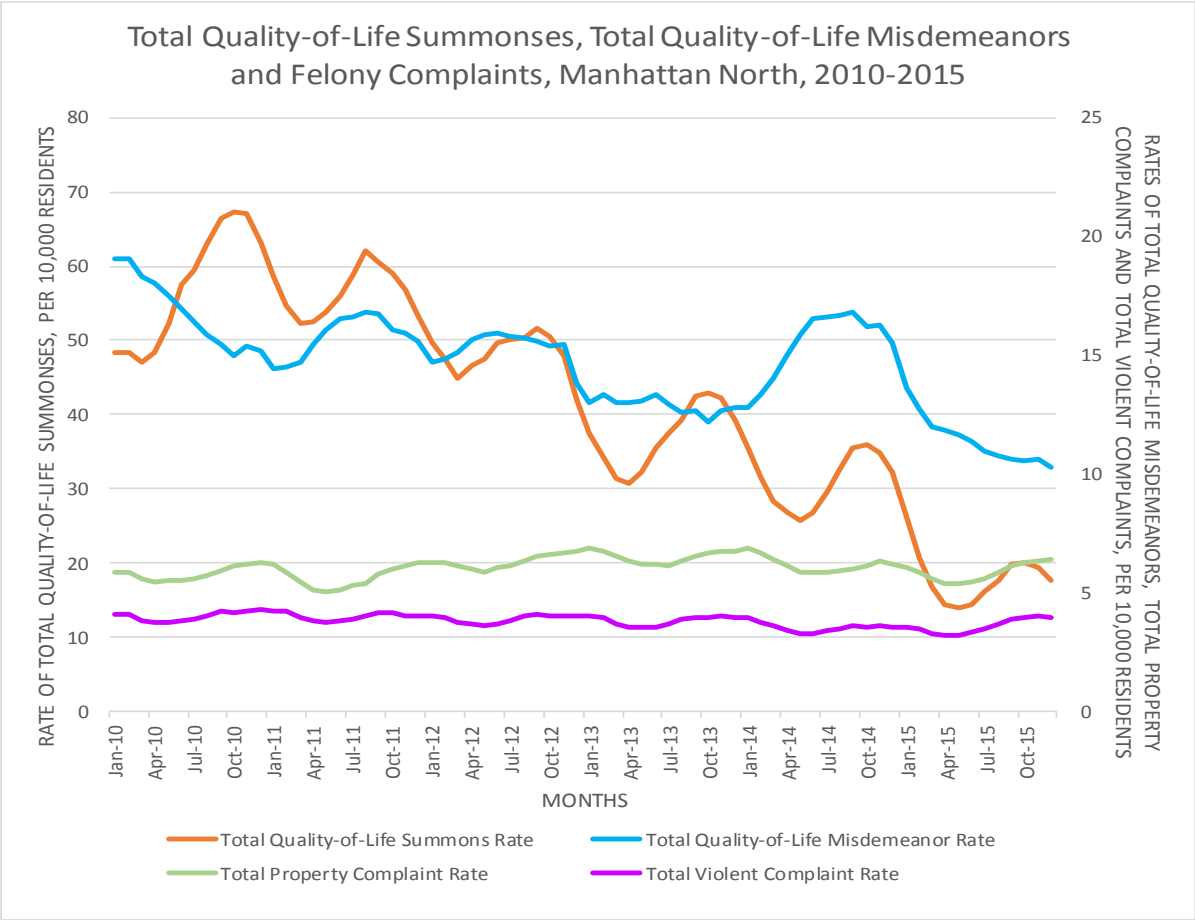


FIGURE 42

In Manhattan North, the total quality-of-life summons rate reflected the trends observed in the City overall. Complaint rates remained stable for the 2010 to 2015 time period.

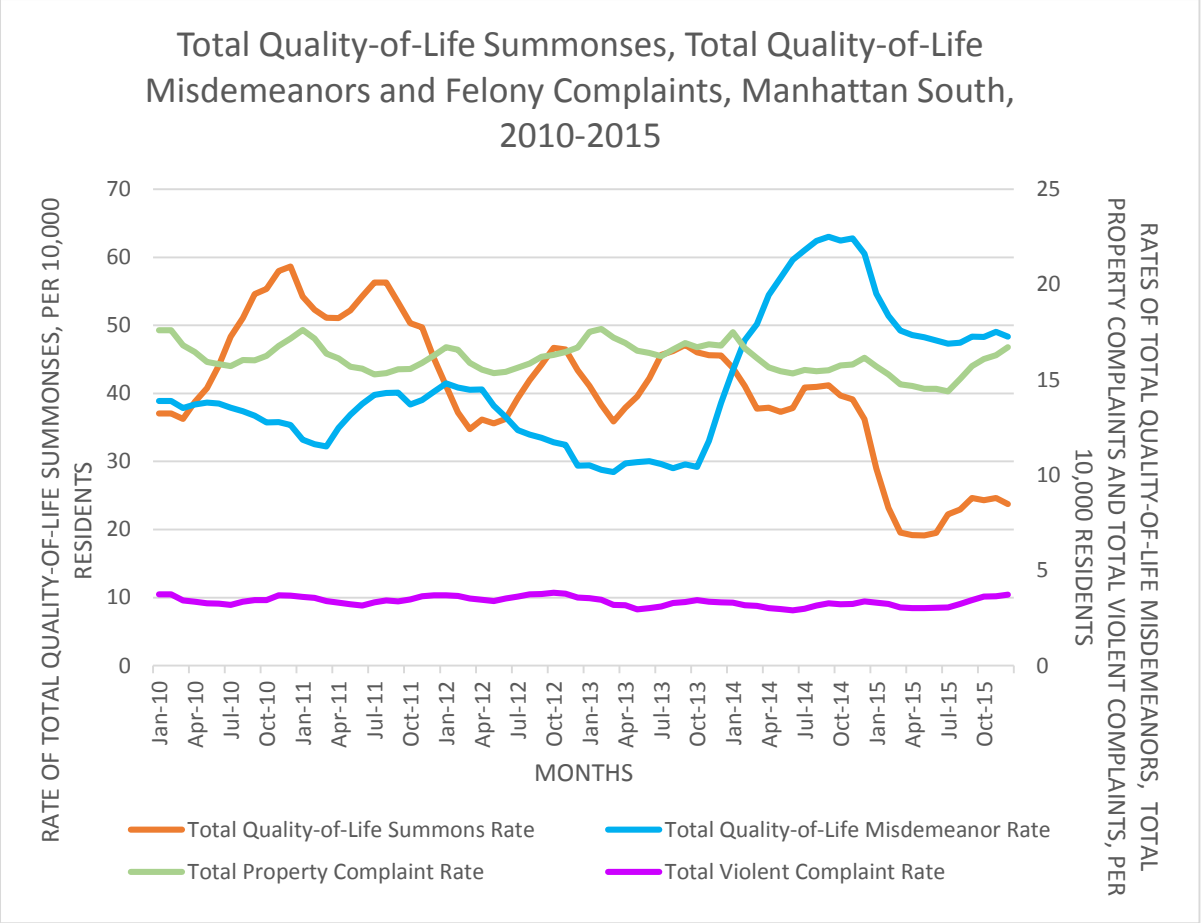


FIGURE 43

For Manhattan South, the rate of quality-of-life misdemeanor arrests was markedly higher than those measured citywide. While the distribution of quality-of-life summonses diminished overall, the rate of 19.5 per 10,000 individuals in March 2015 was still higher than in the City overall. The property complaint rate was also greater than that of other patrol boroughs. Violent complaint rates remained stable through 2015.

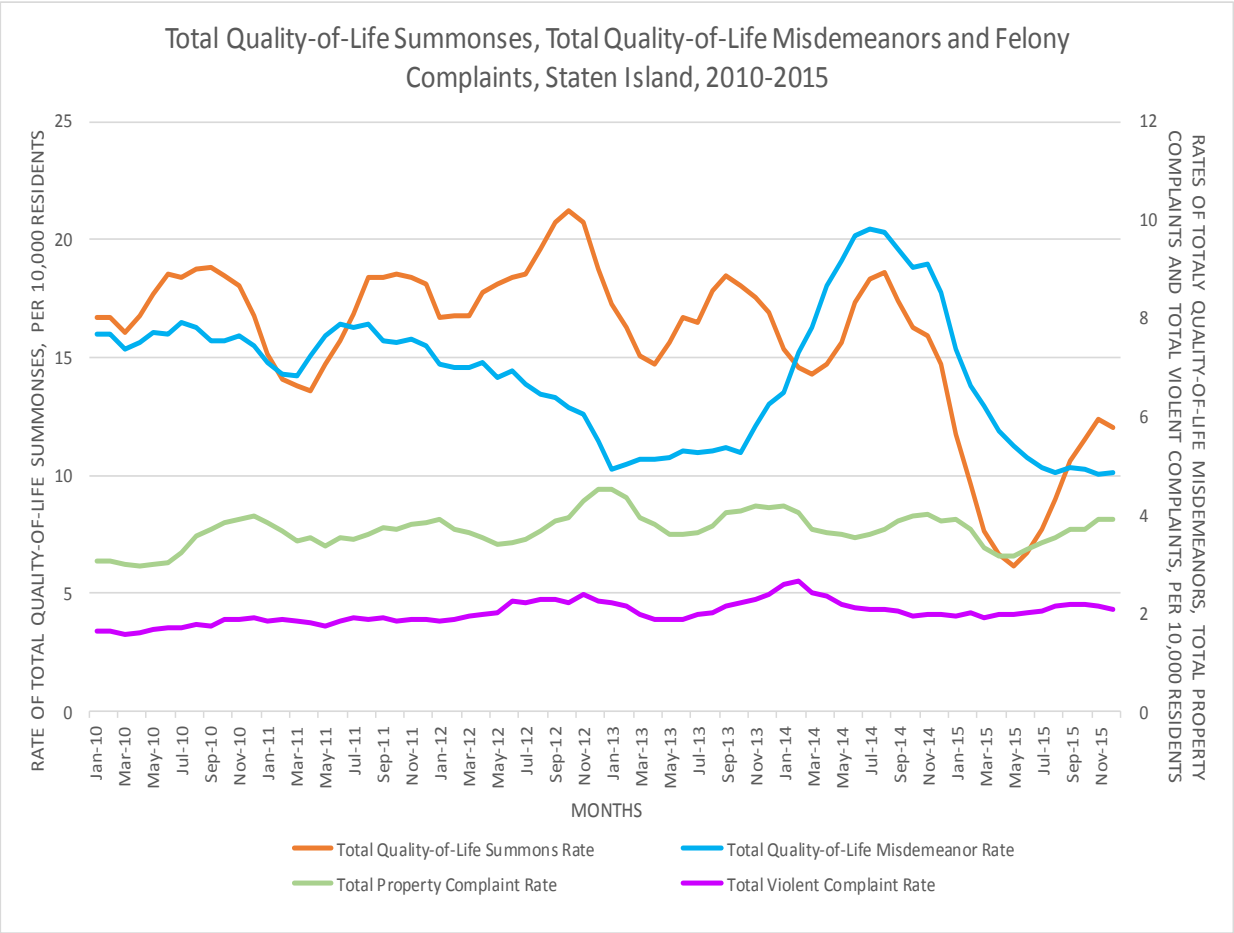


FIGURE 44

In Staten Island, the total rates of quality-of-life summonses and misdemeanor arrests remained stable for much of the period between 2010 and early 2015. The quality-of-life summons rate fell to its lowest level of 3.2 per 10,000 residents in May 2015, after which point it more than tripled to a peak of 12.3 per 10,000 residents in November of the same year. Violent and property complaints held steady at rates in the single digits.

	Patrol Borough	Open Container Summonses per 10,000 Residents	Disorderly Conduct Summonses per 10,000 Residents	Urinating in Public Summonses per 10,000 Residents	Possession of Marijuana Summonses per 10,000 Residents	Bicycle on Sidewalk Summonses per 10,000 Residents	Quality-of-Life Summonses per 10,000 Residents	Quality-of-Life Misdemeanor Arrests per 10,000 Residents
Correlated with Violent Crime Complaints per 10,000 Residents	New York City					0.61		
	Bronx							
	Manhattan North	0.69				0.64	0.70	
	Manhattan South							
	Brooklyn North					0.74	0.64	
	Brooklyn South					0.61		
	Queens North							-0.66
	Queens South					0.77	0.68	
	Staten Island							
Correlated with Property Crime Complaints per 10,000 Residents	New York City							
	Bronx							
	Manhattan North							
	Manhattan South							-0.57
	Brooklyn North							
	Brooklyn South							
	Queens North							
	Queens South							
	Staten Island							

Negative Correlation
Positive Correlation
No Correlation

TABLE 2

The majority of the observable trends (80%) were found to be statistically significant trends.[xxiii] In other words, the observed upward or downward direction of the trendlines are mostly indicative of statistical trends rather than random fluctuations.

OIG-NYPD then ran bivariate linear correlations on the significant trends, testing the relationships between quality-of-life enforcement and property and violent crime complaints. These findings are depicted in Table 2, with the numbers representing correlation coefficients. The further the coefficient is from zero in either direction, the stronger the relationship. As noted earlier in this Report, when two variables are positively correlated, both variables move in the same direction—either increasing or decreasing in tandem—and the strength of this relationship tells us how likely it is that the link is non-random, or that one variable influences the other. When two variables are negatively correlated, the variables move in opposite directions—as one increases, the other decreases.

Only eleven (17.7%) of the correlations between trends were found to be statistically significant. Bicycle on Sidewalk summonses were positively correlated with violent crime complaints in Manhattan North, Brooklyn North, Brooklyn South, Queens South, and New York City as a whole. This would indicate that as Bicycle on Sidewalk summons rates decreased citywide between January 2010 and December 2015, violent crime complaints also decreased, and that this relationship is not due to random chance.

Open Container summons rates were positively correlated with violent crime rates in Manhattan North, indicating that these offenses also declined together.

The total quality-of-life summons rate was positively correlated with violent crime complaints in Manhattan North, Brooklyn North, and Queens South, indicating that as the overall quality-of-life summons rate decreased during the six-year period OIG-NYPD examined, the violent crime complaint rate declined with it.

The only variable that increased as the violent crime complaint rate decreased was that of quality-of-life misdemeanor arrests, and then, only in Queens North. Similarly, as the property crime complaint rate remained largely stagnant in Manhattan South, that patrol borough's quality-of-life misdemeanor rate increased.

None of the statistically significant relationships between trends indicates support for the conclusion that quality-of-life enforcement has a clear influence on the reduction of felony crime over the six-year time frame that OIG-NYPD examined. For the most part, as indicated by the overwhelmingly gray boxes in Table 2, there is no statistically significant relationship between quality-of-life summons activity and reported crime rates. OIG-NYPD's analysis finds no empirical evidence that one generally impacts the other.

Further, in some instances, OIG-NYPD found that as rates of quality-of-life summonses declined, violent crime rates declined with them for the duration of the entire six-year time period. Not only does this finding run counter to the hypothesis that a decline in quality-of-life enforcement could lead to an increase in violent crime rates, but a visual inspection of the timelines indicates that reductions in quality-of-life summonses do not appear to have directly followed major decreases in violent crime. It does not appear that NYPD's reduction of quality-of-life summonses was in direct response to its success as a mechanism of reduction of violent crime. Between 2010 and 2015, quality-of-life enforcement rates—in particular, quality-of-life summons rates—have dramatically declined, but there has been no commensurate increase in felony crime. While the stagnant or declining felony crime rates observed in this six-year time frame may be attributable to NYPD's other disorder reduction strategies, OIG-NYPD finds no evidence to suggest that crime control can be directly attributed to quality-of-life summonses and misdemeanor arrests. (OIG-NYPD notes that this finding should not be over-generalized. It deals only with the relationship of quality-of-life summons and misdemeanor activity to felony crime; OIG-NYPD does not suggest that police activity more generally has no impact on reported crime.)

IV. Recommendations

OIG-NYPD's recommendations on quality-of-life enforcement are designed to address three key areas for improvement to NYPD's approach to quality-of-life enforcement in New York City. First, NYPD should use data to analyze the relationship between quality-of-life enforcement and felony crime. Second, NYPD should approach quality-of-life enforcement as strategically as any other offense and analyze data to determine both short- and long-term trends. Third, NYPD should continue to release data to the public through the new CompStat 2.0 portal, increasing transparency and allowing greater opportunity for public study of NYPD data.

- **NYPD should rely on a more data-driven approach to determine the relative impact of quality-of-life summonses and misdemeanor arrests on the reduction of felony crime, objectively comparing the statistical impact of quality-of-life enforcement on crime with other disorder reduction strategies.**

1) **NYPD should assess the relative effectiveness of quality-of-life summonses, quality-of-life misdemeanor arrests, and other disorder reduction strategies in reducing felony crime, demonstrating whether statistically significant relationships exist between these particular disorder reduction tactics and specific felony crimes.**

OIG-NYPD found no evidence that the drop in felony crime observed over the past six years was related to quality-of-life summonses or quality-of-life misdemeanor arrests. This suggests that there are other strategies that may be driving down crime. Between 2010 and 2015, quality-of-life enforcement rates—in particular, quality-of-life summons rates—have dramatically declined, but there has been *no commensurate increase in felony crime*. While the stagnant or declining felony crime rates observed in this six-year time frame may perhaps be attributable to NYPD's other disorder reduction strategies, OIG-NYPD finds no evidence to suggest that crime control can be directly attributed to quality-of-life summonses and misdemeanor arrests. Whatever has contributed to the observed drop in felony crime remains an open question worthy of further analysis.

Part of NYPD's stated quality-of-life policing strategy involves the issuance of quality-of-life summonses and misdemeanor arrests, but as OIG-NYPD's analysis shows, merely indicating that quality-of-life enforcement occurs in the same areas as felony crime is insufficient without review of the data over time and in comparison with other NYPD quality-of-life activities. Instead, NYPD should determine whether localized shifts in quality-of-life enforcement strategies are statistically related to subsequent shifts in felony crime, and it should use this information to better target quality-of-life enforcement. Further, NYPD should review—objectively and statistically—whether other methods of disorder reduction have a measurable relationship with the reduction of felony crime.

2) **NYPD should conduct an analysis to determine whether quality-of-life enforcement disproportionately impacts black and Hispanic residents, males aged 15-20, and NYCHA residents.** OIG-NYPD's analysis suggests that precincts with higher proportions of these groups generally had more quality-of-life summonses and quality-of-life misdemeanor arrests. This analysis was undertaken at the precinct level, and thus cannot determine disproportional impact with regard to individuals. NYPD should further examine this issue to determine whether these groups are being disproportionately targeted within each precinct with a more precise analysis that clearly delineates the impact of quality-of-life enforcement patterns.

- **NYPD should expand its data reviews to longer time frames to separate long-term trends from short-term trends or transient impacts of quality-of-life policing efforts across New York City.**

3) **NYPD should expand consideration regarding quality-of-life enforcement beyond short-term real-time conditions**. While NYPD's tactical decisions regarding quality-of-life policing are often, appropriately, based on real-time conditions, such short-term analysis of crime data, absent tests of statistical significance, is not enough to determine the impact that specific summonses and misdemeanor arrests have on specific felony crimes. NYPD should strengthen evidence-based predictive policing approaches to better determine the most effective quality-of-life strategies and minimize the potential for collateral consequences that can harm police-community relations. To do so, NYPD should analyze longer-term statistical trends to determine the likely effects of quality-of-life enforcement on specific crimes while separating out effects of short-term fluctuations in crime rates. This would allow NYPD to break down potential cause-and-effect relationships between quality-of-life summonses and misdemeanor arrests, and the felony crimes they are intended to prevent. This information could then be used to improve deployment and tactics, as well as make each precinct more responsive to community concerns. A review of this sort would permit NYPD to predict possible impact on a more nuanced level, allowing for more targeted deployment of police resources.

- **NYPD has recently made incident-level data available to the public through CompStat 2.0. OIG-NYPD welcomes the launch of this interactive tool and recommends that NYPD additionally release more granular crime data to allow the public to better understand and analyze the relationships between quality-of-life enforcement and crime.**

4) **NYPD should release incident-level and geographically coded data on summonses and misdemeanor arrests.** NYPD has released felony categories, shooting incidents, and certain misdemeanor offenses on CompStat 2.0. This information has allowed for greater transparency to the public. OIG-NYPD encourages NYPD to release more data (information that NYPD already collects) so that members of the public and institutions can further add to the conversation and help inform future policy discussions. Only felony crime categories are currently available as geocoded (precise location) incident level data. The inclusion of similarly detailed data on all misdemeanor arrests and summonses would help clarify to the public which activities

NYPD focuses on as part of its quality-of-life enforcement efforts, and which communities are most frequently targeted for increased attention to low-level crimes. These data can be integrated into the existing CompStat 2.0 platform. In turn, this increased transparency and the resulting possibility of more open dialogue with the public would improve police-community relations and collaboration.

5) **NYPD should release historical incident-level and geographic data.** Long-term data is currently available to the public for some felony categories, shooting incidents, and certain misdemeanor offenses. NYPD should make available historical incident-level and geographic data for all misdemeanor arrest and summons categories to make CompStat 2.0 more robust, and ultimately, more complete. The release of such long-term data would enable public examination of the potential impact of quality-of-life enforcement efforts over time.

6) **NYPD should ensure that data currently released in yearly formats also include more granular temporal data, including month-to-month formats and incident-level data.** NYPD publicly releases much of its long-term data in the form of annualized numbers by precinct. It would be beneficial if that data were released in month-to-month and incident-level formats, both for enhanced transparency and to allow the public to conduct better analysis of the data. While larger periods of time are useful, yearly data does not allow comparison of different periods of time within the year.

7) **All incident-level crime data, from felony arrests and complaints to misdemeanor arrests and summonses, should be released in the same accessible spreadsheet file format (.csv or similar file format)**. NYPD currently releases some data (for instance, C-summons and misdemeanor arrest data) in publicly-downloadable spreadsheets that are formatted to be easily analyzed by external parties. Other crime categories are not as accessible, requiring considerable time and effort to convert into a usable format. With a combined release of long-term, granular datasets as outlined in Recommendations 4-7, members of the public, police oversight practitioners, and others would be able to examine for themselves the possible long-term impact of quality-of-life enforcement in New York City.

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Appendices

Appendix 1

Bivariate Correlation Results, Correlation Coefficients

Variables of Interest	Proportion Males, Aged 15-20	Proportion Hispanic	Proportion White	Proportion Black	Proportion NYCHA Residents	Total Quality-of-Life Summons Rate	Total Quality-of-Life Misdemeanor Arrest Rate	Total Violent Felony Complaint Rate	Total Property Felony Complaint Rate	Total Felony Complaint Rate
Proportion of Males, Aged 15-20		0.571	-0.728	0.624	0.316	0.355	0.228	0.574	-	-
Proportion Hispanic	0.571		-0.540	0.234	0.297	0.417	0.358	0.448	-	-
Proportion White	-0.728	-0.540		-0.673	-0.271	-0.503	-0.450	-0.732	-	0.309
Proportion Black	0.624	0.234	-0.673		0.518	0.434	0.383	0.739	-	0.412
Proportion NYCHA Residents	0.316	0.297	0.271	0.518		0.449	0.497	0.552	0.305	0.429
Total Quality-of-Life Summons Rate	0.355	0.417	-0.503	0.434	0.449		0.810	0.813	0.498	0.764
Total Quality-of-Life Misdemeanor Rate	0.228	0.358	-0.450	0.383	0.497	0.810		0.787	0.585	0.814
Total Violent Felony Complaint Rate	0.574	0.448	-0.732	0.739	0.552	0.813	0.787		0.431	0.761
Total Property Felony Complaint Rate	-	-	-	-	0.305	0.498	0.585	0.431		0.872
Total Felony Complaint Rate	-	-	-0.309	0.412	0.429	0.764	0.814	0.761	0.872	

Note: The bivariate correlation results provided in Appendix 1 reflect use of the Spearman's rank correlation method, which is most frequently applied when the relationships between the variables being examined are not normally distributed or nonlinear in nature. Further examination of the differences between the Spearman's and the more commonly applied Pearson's coefficients can be found in the 2011 paper entitled, "Comparison of Values of Pearson's and Spearman's Correlation Coefficients on the Same Sets of Data," by Jan Hauke and Tomasz Kossowski, *Quaestiones Geographicae*, Volume 30(2), 87-93.

Appendix 2

Partial Correlation Results, Correlation Coefficients

Correlate	With	Controlling for	r
Proportion of Male Residents, Aged 15-20	Total Quality-of-Life Misdemeanor Arrests	Total Felony Complaints	0.217
	Total Quality-of-Life Summonses		0.405
	Total Quality-of-Life Misdemeanor Arrests	Violent Felony Complaints	-0.442
	Total Quality-of-Life Summonses		-0.233
	Total Quality-of-Life Misdemeanor Arrests	Property Felony Complaints	0.433
	Total Quality-of-Life Summonses		0.535
Proportion of Residents who are Hispanic	Total Quality-of-Life Misdemeanor Arrests	Total Felony Complaints	0.463
	Total Quality-of-Life Summonses		0.517
	Total Quality-of-Life Misdemeanor Arrests	Violent Felony Complaints	No correlation identified
	Total Quality-of-Life Summonses		No correlation identified
	Total Quality-of-Life Misdemeanor Arrests	Property Felony Complaints	0.543
	Total Quality-of-Life Summonses		0.563
Proportion of Residents who are White	Total Quality-of-Life Misdemeanor Arrests	Total Felony Complaints	-0.360
	Total Quality-of-Life Summonses		-0.435
	Total Quality-of-Life Misdemeanor Arrests	Violent Felony Complaints	0.299
	Total Quality-of-Life Summonses		0.232

	Total Quality-of-Life Misdemeanor Arrests	Property Felony Complaints	-0.561
	Total Quality-of-Life Summonses		-0.585
Proportion of Residents who are Black	Total Quality-of-Life Misdemeanor Arrests	Total Felony Complaints	No correlation identified
	Total Quality-of-Life Summonses		0.203
	Total Quality-of-Life Misdemeanor Arrests	Violent Felony Complaints	-0.477
	Total Quality-of-Life Summonses		-0.424
	Total Quality-of-Life Misdemeanor Arrests	Property Felony Complaints	0.352
	Total Quality-of-Life Summonses		0.406
Proportion of Residents in NYCHA Housing	Total Quality-of-Life Misdemeanor Arrests	Total Felony Complaints	0.281
	Total Quality-of-Life Summonses		0.208
	Total Quality-of-Life Misdemeanor Arrests	Violent Felony Complaints	No correlation identified
	Total Quality-of-Life Summonses		No correlation identified
	Total Quality-of-Life Misdemeanor Arrests	Property Felony Complaints	0.412
	Total Quality-of-Life Summonses		0.360

Note: Each rate that was used to obtain the computed correlation values was calculated per 10,000 residents.

Appendix 3

Mann-Kendall Coefficients

Patrol Boroughs	Total Quality-of-Life Summonses	Total Quality-of-Life Misdemeanors	Total Violent Felony Complaints	Total Property Felony Complaints	Total Quality-of-Life Felony Complaints
MS	-0.600	0.289	-0.422	-0.344	-0.378
MN	-0.933	-0.511	-0.756	No trend identified.	No trend identified.
BS	-0.889	-0.522	-0.256	-0.233	No trend identified.
BN	-0.822	-0.833	-0.422	No trend identified.	-0.178
QS	-0.822	-0.611	No trend identified.	-0.333	-0.256
QN	-0.900	0.289	-0.522	-0.233	-0.400
BX	-0.844	-0.711	0.189	-0.278	No trend identified.
SI	-0.489	-0.344	0.511	0.244	0.378
NYC	-0.944	-0.656	-0.278	No trend identified.	-0.189

Note: All Mann-Kendall statistics were considered statistically significant at the $p<.10$ level.

Appendix 4

Misdemeanor Arrest Types Considered throughout Analysis

Misdemeanor Offense Categories, as technically defined by NYPD				
Drugs, Tobacco, and Gambling	**Property Damage**	**Trespass**	**Catchall**	**Resisting Arrest**
C/P MARIHUANA-5TH:25 GRAMS	CRIM MIS: DESTROY ABANDON BUILDING	CRIM TRES 3/RAILROAD/HATE CRIM	LEWDNESS-EXPOSE BODY IN PUBLIC	
C/P MARIHUANA-5TH:PUBLIC PLACE	CRIM MIS:INTENT DAMAGE PROPRTY	CRIM TRES 3/SCHOOL/HATE CRIME	LEWDNESS-INTENT TO BE SEEN	
CRIM POSS CONTRL SUBST-7TH	CRIM MIS:RCKLS PROP DAM > $250	CRIM TRES 3:SCHOOL/HATE CRIME	LOIT: PROSTITUTION OFFENSE 2ND	
CRIM POSS MARIHUANA-4TH:2 OZ	MAKING GRAFFITI	CRIM TRES 3RD/HATE	LOIT: PROSTITUTION SOLICITATION	
CRIM SALE MARIHUANA-4TH	POSSESSION OF GRAFFITI INST	CRIM TRES 3RD/HATE CRIME	PATRONIZE PROSTITUTE-3RD	
CRIM SALE MARIHUANA-5TH:2 GRAM		CRIM TRESPASS 3RD/HATE CRIM	PERMITTING PROSTITUTION	
MFGR/SELL ALC BEV W/O LICENSE		CRIM TRESPASS 3RD:RAILROAD	PETIT LARCENY	
MISC LIQUOR/ GAMBLING VIOL		CRIM TRESPASS 3RD:SCHOOL	PROMOTING PROSTITUTION-4TH	
POSS/TRANS TOBACCO- TAX UNPAID		CRIM TRESPASS 3RD:ENCLSD PROP	PROSTITUTION	
POS GAM DEV:OTH THAN SLOT-MACH		CRIM TRESPASS 3RD:PUB HOUS VIO	PUBLIC LEWDNESS	
POS GAMB DEVICE:SLOT MACHINE		CRIM TRESPASS 3RD:PUB HOUSING		
POSS GAM DEV:COIN OPER/INT USE		CRIM TRESPASS 3RD:SCHOOL		

Misdemeanor Offense Categories, as technically defined by NYPD				
Drugs, Tobacco, and Gambling	**Property Damage**	**Trespass**	**Catchall**	**Resisting Arrest**
POSS GAM REC-2ND:BOOKMAKING		CRIM TRESSPASS 3RD:SCHOOL		
POSS GAM REC-2ND:POLICY/LOTT		CRIMINAL MISCHIEF-4		
POSS GAM REC-2ND: POS FLASH PAP		CRIMINAL TRESPASS 2ND		
POSS/SELL UNSTAMPED CIGARETTES		CRIMINAL TRESPASS-2ND		
POSS/TRANS TOBACCO-TAX UNPAID		CRIMINAL TRESPASS-3/ HATE CRIME		
POSSESSION HYPODERMIC INSTRUMT		CRIMINAL TRESPASS-3RD		
PROMOTING GAMBLING-2ND				
SELL CIGARETTES BELOW COST				
SELL/BUY CIGARETTES BELOW COST				
WHOLESALE BUY CIGS BELOW COST				

Technical Endnotes

[i] Precinct-level analysis is not without its caveats. Some precincts have several condition-specific neighborhoods within their boundaries, and some neighborhoods cross precinct boundaries.

[ii] *See* Mark Ellis, *'Mark One Or More': Counting And Projecting By Race On US Census 2000 And Beyond,* 1.2 SOCIAL & CULTURAL GEOGRAPHY 185 (2000). OIG-NYPD erred on the side of caution and selected the aforementioned clear racial categories.

[iii] While OIG-NYPD refers to felony complaints as "crimes" for the purposes of estimating "crime rates," no measure of criminal activity is without error. Crimes that never become known to the police, for example, are not measured in this review. Further, these data reflect retrospective data obtained from NYPD, and so reflect adjustments made to complaint categories following NYPD review of crime classifications.

[iv] While NYPD, the New York Penal Law, and the United States Supreme Court generally define burglary as a violent crime, the FBI's Uniform Crime Report (UCR), the National Crime Victimization Survey, the Bureau of Justice Statistics, and a preponderance of criminological studies define burglary as a property crime. Given that a recent report for the United States Department of Justice concluded that nationally, "the majority of burglaries do not involve physical violence and scarcely even present the possibility of physical violence," OIG-NYPD classified burglary as a property crime for purposes of this analysis. *See* Richard F. Culp, Phillip M. Kopp, et al., *Is Burglary A Crime Of Violence? An Analysis of National Data 1998-2007*, https://www.ncjrs.gov/pdffiles1/nij/grants/248651.pdf (last visited Sept. 13, 2015). Importantly, the felony burglary data used in this analysis was aggregated into a single Felony Burglary statistic, and as such the number of violent acts occurring during these burglaries is unknown.

[v] 2015 population estimates were not *available at* the precinct level, so 2010 population counts were used to calculate these proportions. Given that the ratio of the population of each patrol borough to that of New York City as a whole remained fairly consistent over the study period, with no ratio changing more than .20%, 2010 estimates were deemed to be reasonably reliable.

[vi] For an explanation of outliers and common statistical methodology in dealing with extreme values, *see* National Institute of Standards and Technology, U.S. Department of Commerce, "Engineering Statistics Handbook: Detection of Outliers," http://www.itl.nist.gov/div898/handbook/eda/section3/eda35h.htm (last visited Sept. 15, 2015).

[vii] For all the correlations, OIG-NYPD used *Spearman's correlation coefficient* to determine the magnitude of how two variables (for example, Bicycle on Sidewalk summonses and Property Felony Complaints) are related. This number is always between 0 and 1, with a value of 0 meaning that there is no relationship between the variables, and a value of 1 meaning that there is a *perfect* relationship between variables—that increases or decreases in one variable are *always* accompanied by increases or decreases in the other. (However, neither of these two situations occur frequently in real-life relationships). The necessity of this measurement is warranted because the data OIG-NYPD compiled is not normally distributed. That is, not all crime rates fall evenly close to an average crime rate. For more information on Spearman's coefficients and non-normal distributions, *see* United Nations Educational, Scientific, and Cultural Organization, "Non-Parametric Measures of Bivariate Relationships," *available at* http://www.unesco.org/webworld/idams/advguide/Chapt4_2.htm.

[viii] The significance level or *p-value* is a number between 0 and 1. It represents the possibility that the trend was observed by random chance (or as a *fluke*) alone. The p-value was less than .10 for all significant correlation tests, meaning that there is less than a 10% chance that these patterns were detected only by random chance. While the selection of a p-value of .10 increases the risk of concluding that there is a relationship between variables when, in fact, there is not, OIG-NYPD chose to err on the side of inclusiveness of all possible relationships rather than risk concluding that there is no such relationship when there may, in fact, be one. Tables of all correlation coefficients for the performed statistical tests appear in the appendices.

[ix] OIG-NYPD's unit of analysis was precincts, which is a relatively small sample size of 76. (The 22nd Precinct was excluded from correlational analysis). In small samples, minor effects or relationships are very difficult to detect, meaning that there is a risk that the power of relationships are underestimated.

[x] Controlling for rates of felony crime is essentially setting rates of felony crime equal to 0 in all precincts. This eliminates the "influence" of felony crime in order to expose the relationship between race or ethnicity and quality-of-life summonses or quality-of-life misdemeanor arrests beyond such crime rates.

[xi] There are limits to this sort of analysis, given the relatively arbitrary temporal beginning and end points. OIG-NYPD's analysis is limited to a six-year time frame and should not be generalized to longer time frames.

[xii] Given both the large number of data points across 72 months and the small raw numbers of crimes on a monthly basis within individual precincts, OIG-NYPD aggregated data in patrol boroughs to examine trends.

[xiii] This method was used because more granular population estimates, such as Census blocks which are easily converted into precincts, are not available from the Census for 2010-2015. OIG-NYPD assumed that the 2010 proportions would hold for subsequent years, and used 2011-2015 Census estimates of borough populations to determine patrol borough populations for these years. For example, the annual population estimate for Queens was obtained for 2011, 2012, 2013, 2014 and 2015. *See* 2010 Census Summary File, Table: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015, All counties in New York City*, available at* http://factfinder.census.gov. Queens North accounts for approximately 52.3% of the total Queens population, while Queens South accounts for approximately 47.7%. For each year, the total estimated Queens population was divided by the percentage of each individual patrol borough, resulting in an annual population estimate for each patrol borough for the duration of the study period. OIG-NYPD examined the proportion of the population that each patrol borough contributed to the population of the borough where it sits.

[xiv] For more information on the use of Mann-Kendall tests in time series analyses, *see* U.S. Department of Energy, Visual Sample Plan, "Mann-Kendall Test For Monotonic Trend," http://vsp.pnnl.gov/help/Vsample/Design_Trend_Mann_Kendall.htm (last visited Sept. 16, 2015).
The article outlines the purpose of the Mann-Kendall test, which statistically detects the presence of trends in the data for a variable being examined over time. The Mann-Kendall technique is the best test available to statistically determine the presence and directionality of significant trends in the temporal data OIG-NYPD analyzed, and is an especially helpful tool for datasets that are non-normally distributed or contain large amounts of variance over time—like New York City crime data. Use of the approach is cited throughout a number of trend analyses conducted by academic and governmental entities (*See*, *e.g.*, Claudia Libiseller & Anders Grimvall, Performance of Partial Mann-Kendall Tests for Trend Detection in the Presence of Covariates," Environmetrics 13:1 (2002).

[xv] A key statistic used in this comparison was "Kendall's tau," which is a measurement of correlation between two quantities. In this case, OIG-NYPD measured the correlation between time and crime rates. A negative Kendall tau coefficient represents a general decreasing trend over time, while a positive one denotes a general increasing trend over time.

[xvi] *Id*.

[xvii] OIG-NYPD used non-seasonally adjusted data for this analysis in order to examine major shifts in quality-of-life enforcement tactics, apart from more consistent changes in seasonal crime rates.

[xviii] A number of the timeline graphs depict quality-of-life summons rates as falling beneath the boundaries of the X-axes and trending toward the negative. The negative values result from the application of a smoothing technique to the data in the series to increase the interpretability of the relationships being examined. "Smoothing" is a broad term which describes a range of statistical processes (in this case the Holt-Winters) in which the variability in a dataset is reduced mathematically to produce diagrams which more accurately reflect the likely behavior of possible associations in ideal conditions. For more information on smoothing as a practice, See Tom O'Haver "Smoothing," A Pragmatic Introduction to Signal Processing, http://terpconnect.umd.edu/~toh/spectrum/Smoothing.html and Charles Holt, "Forecasting Seasonals and Trends by Exponentially Weighted Moving Averages," International Journal of Forecasting 20:1 (2004).

[xix] *See* Appendix 3 for a table of results of Mann-Kendall tests, including Kendall's tau coefficients. For a definition of Kendall's tau, *see supra*, note xv.

[xx] The p-value in a Mann-Kendall correlation test is a measure of statistical accuracy. The p-value, a number between 0 and 1, represents the probability that OIG-NYPD would observe a trend as extreme as the one that was observed by random chance (or as a "fluke") alone. The p-value was less than .10 for all significant Mann-Kendall correlation tests, meaning that there is less than a 10% chance that these patterns were detected only by random chance.

[xxi] There is no definitive way to tell whether quality-of-life enforcement has a clear causal impact on crime rates, because many variables interact to make crime more or less likely at particular times and in particular locations, and it is impossible to control for all of them.

[xxii] For a definition of the Mann-Kendall approach, *see* U.S. Department of Energy, *supra* note xiv. *See* Appendix 3 for a table of results of Mann-Kendall tests. All Mann-Kendall statistics were considered statistically significant at the $p<.10$ level.

[xxiii] For a definition of the Mann-Kendall approach, see *supra*, note xiv. *See* Appendix 3 for a table of results of Mann-Kendall tests. All Mann-Kendall statistics were considered statistically significant at the $p<.10$ level.